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Aberdeen Proving Ground, Maryland

Revised Final

Phase I RCRA Facility Investigation Report

Tooele Army Depot-North Area Suspected Releases SWMUs DAAA15-90-D-0011

Volume I
Text

December 1993

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MONTGOMERY WATSON

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13. ABSTRACT *(Maximum 200 words)*

Environmental investigations were conducted during 1992-93 at twenty suspected releases solid waste management units (SWMUs) at the Tooele Army Depot-North Area (TEAD-N) as part of a Resource Conservation and Recovery Act (RCRA) Facility Investigation (RFI) under the terms of a State of Utah Corrective Action Permit. Field sampling activities were conducted at seventeen of the twenty SWMUs to determine if treatment, storage, or disposal of hazardous wastes or constituents have released contaminants to the environment. Previous waste practices and controls at three SWMUs indicate that adequate protection against contaminant releases exists at these facilities, and no field sampling was required.
A total of 606 soil samples, 12 sediment samples, and 19 water samples were collected, as well as 17 background soil samples. Based on records reviews and the sampling results, three SWMUs are recommended for no further action, one SWMU is recommended for no further action under the Corrective Action Permit, and 16 SWMUs are recommended for further study. Of these 16 SWMUs, 10 are recommended for further sampling activities to obtain additional data for a subsequent risk assessment, and six are recommended for risk assessment or current-use risk evaluations utilizing the existing environmental data.

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TOOELE ARMY DEPOT NORTH AREA
SUSPECTED RELEASES SWMUS
PHASE I STUDY

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* *Note: Table numbers correspond to individual sections for each SWMU. Tables 5-1, 5-20, 5-22, and 5-23 are not included here, as these sections do not contain analytical results.*

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ACRONYMS

AEC	(U.S.) Army Environmental Center
AED	Ammunition Engineering Directorate
AEHA	U.S. Army Environmental Hygiene Agency
ASCS	Agricultural Stabilization and Conservation Service
AST	Aboveground Storage Tank
bgs	beneath ground surface
CDM	Camp, Dresser, and McKee
cm/s	centimeters per second
CRL	Contract Reporting Limits
CWP	Contaminated Waste Processing Plant
DCQAP	Data Collection Quality Assurance Plan
DMP	Data Management Plan
DRMO	Defense Reutilization and Marketing Office
EA	Environmental Assessment
EMO	Environmental Management Office
EP Toxicity	Extraction Procedure Toxicity
EPA	Environmental Protection Agency
EPIC	Environmental Photographic Interpretation Center
ERTEC	Earth Technology Corporation
FS	Feasibility Study
ft/yr	feet per year
GAC	Granular Activated Carbon
gpd/ft^2	gallons per day per square foot
HASP	Health and Safety Plan
HSWA	Hazardous and Solid Waste Amendments
HWCP	Hazardous Waste Contingency Plan
IDW	Investigation-Derived Wastes
IWL	Industrial Wastewater Lagoon
JMM	James M. Montgomery, Consulting Engineers, Inc.
MCL	Maximum Contaminant Level
MSL	Mean Sea Level
NEPA	National Environmental Policy Act
OB/OD	Open Burning/Open Detonation
PAH	Polycyclic Aromatic Hydrocarbons
PCDD	Polychlorinated Dibenzo Dioxin
PCDF	Polychlorinated Dibenzo Furan
PMP	Project Management Plan
PQL	Practical Quantitation Limits
RCRA	Resource Conservation and Recovery Act
RFI	RCRA Facility Investigation
RI	Remedial Investigation
SPCCP	Spill Prevention Control and Countermeasures Plan
SVOC	Semi-volatile Organic Compounds
SWMU	Solid Waste Management Unit
TCLP	Toxic Characteristics Leaching Procedure
TEAD-N	Tooele Army Depot, North Area
TIC	Tentatively Identified Compound
TOD	Tooele Ordnance Depot
TRPH	Total Recoverable Petroleum Hydrocarbons
USATHAMA	U.S. Army Toxic and Hazardous Materials Agency
USGS	U.S. Geological Survey
USCS	Unified Soil Classification System
USSCS	U.S. Soil Conservation Service
UST	Underground Storage Tank
VOC	Volatile Organic Compound
μg/L	micrograms per liter

IRDMIS CHEMICAL ACRONYMS

124TCB	1,2,4-Trichlorobenzene
112TCE	1,1,2-Trichloroethane
12DCE	1,2-Dichloroethenes/1,2-dichloroethylenes (cis and trans isomers)
12 DCLE	1,2-Dichloroethane
135TNB	1,3,5-Trinitrobenzene
13DNB	1,3-Dinitrobenzene
2CLP	2-Chlorophenol
2MENAP	2-(1-Methylethyl) napthalene
24DCLP	2,4-Dichlorophenol
24D	2,4-Dichlorophenoxyacetic acid
24DNT	2,4-Dinitrotoluene
26DNT	2,6-Dinitrotoluene
2MENAP	2-(1-Methylethyl) naphthalene
4MP	4-Methylphenol/4-cresol
ACET	Acetone
ACLDAN	alpha-Chlordane
AG	Silver
ANAPNE	Acenaphthene
ANTRC	Anthracene
AS	Arsenic
B2EHP	bis (2-Ethylhexyl) phthalate
BA	Barium
BAANTR	Benzo (A) anthracene
BAPYR	Benzo (A) pyrene
BBFANT	Benzo (B) fluoranthene
BBZP	Butylbenzyl phthalate
BE	Beryllium
BGHIPY	Benzo (G,H,I) perylene
BKFANT	Benzo (K) fluoranthene
BTZ	Benzothiazole
C-10	Decane
C21	Heneicosane
CA	Calcium
CCL3F	Trichlorofluoromethane
CD	Cadmium
CH2CL2	Methylene Chloride
CHCL3	Chloroform
CHRY	Chrysene
CL	Chloride
CL6BZ	Hexachlorobenzene
CR	Chromium
CU	Copper
CYN	Cyanide
DMP	Dimethyl phthalate
DNBP	Di-N-butyl phthalate
ENDRN	Endrin
ETC6H5	Ethylbenzene
FANT	Fluoranthene
FE	Iron
FLRENE	Fluorene
FURANS	Dibenzofurans - nonspecific
GCLDAN	gamma-Chlordane
HEXANE	Hexane
HG	Mercury
HMX	Cyclotetramethylenetetranitramine
HPCDD	Hepta-dioxins
HPCDF	Hepta-furans

HPCL	Heptachlor
HXCDD	Hexa-dioxins
HXCDF	Hexa-furans
ICDPYR	Indeno (1,2,3-C,D) pyrene
ISODR	Isodrin
K	Potassium
MEC6H5	Toluene
MESTOX	Mesityl oxide/4-Methyl-3-penten-2-one
MG	Magnesium
MN	Manganese
NA	Sodium
NAP	Naphthalene
NB	Nitrobenzene
NI	Nickel
NIT	Nitrite, nitrate - nonspecific
NNDPA	N-Nitrosodiphenylamine
OCDD	Octa-dioxins
OCDF	Octa-furans
ODECA	Octadecanoic acid/Stearic acid
PAH	Polynuclear aromatic hydrocarbons
PB	Lead
PCDD	Penta-dioxins
PCDF	Penta-furans
PCP	Pentachlorophenol
PHANTR	Phenanthrene
PHENOL	Phenol
PO4	Phosphate
PPDDD	2,2-Bis (para-chlorophenyl)-1,1-dichloroethane
PPDDE	2,2-Bis (para-chlorophenyl)-1,1-dichloroethene
PPDDT	2,2-Bis (para-chlorophenyl)-1,1,1-trichloroethane
PYR	Pyrene
RDX	Cyclonite/Hexahydro-1,3,5-trinitro-1,3,4-triazine
SE	Selenium
SO4	Sulfate
TCDD	Tetra-dioxins
TCDF	Tetra-furans
TCLEE	Tetrachloroethylene/Tetrachloroethene
TL	Thallium
TPO4	Total phosphates
TRCLE	Trichloroethylene/Trichloroethene
TXYLEN	Xylenes, total combined
V	Vanadium
XYLEN	Xylenes
ZN	Zinc

EXECUTIVE SUMMARY

Under the terms of Corrective Action Permit UT3213820894 signed on January 7, 1991, the State of Utah, Department of Environmental Quality is requiring the Tooele Army Depot (TEAD) to conduct corrective action investigations at 46 solid waste management units (SWMUs) at the north area of TEAD (TEAD-N). For regulatory purposes, the 46 SWMUs were divided into three groups for environmental investigation and potential remediation. Two of the groups (the SWMUs with known releases and suspected releases) are being administered under the requirements of RCRA while the third group is being administered under CERCLA under a Federal Facility Agreement.

The 20 SWMUs suspected of having released hazardous waste or contaminants to the environment are the subject of this Phase I RCRA Facility Investigation (RFI). The objective of the Phase I RFI is to determine the presence or absence of environmental contamination at each of the suspected releases SWMUs and to recommend either additional investigations or no further action.

TEAD-N is located in the Tooele valley about 35 miles southwest of Salt Lake City, Utah, and immediately west of Tooele, Utah. The primary activities conducted at TEAD-N are rebuilding and storing military vehicles and equipment and storing conventional munitions. Hazardous wastes or constituents have been handled, treated, or disposed of at numerous locations around TEAD-N. Wastes generated include dust and ash with elevated metals and organic compounds from incinerating munitions and packaging materials, ash and debris containing elevated metals and explosives from open burning and open detonation of propellants and munitions in unlined disposal pits, and used sand blast media, used motor oil, and waste solvents from vehicle maintenance activities. In addition to these process-specific waste streams, elevated levels of pesticides, metals, and organic compounds are also present in areas where pesticide residues, boiler blowdown water, industrial waste water, and bulk wastes are handled or were discharged.

Field sampling investigations were conducted at 17 of the 20 suspected releases SWMUs to determine if treatment, storage, or disposal of hazardous wastes or constituents have released contaminants to the environment. No sampling activities were conducted at three SWMUs where records of past waste management practices and ongoing waste management practices and controls indicate that there has been adequate protection against releases from these facilities. At the 17 SWMUs where field sampling was conducted, a total of 606 soil samples, 12 sediment samples, 12 groundwater samples, and seven surface water samples were collected to determine if contaminants had been released to the environment. In addition, 17 background soil samples were collected to evaluate the concentrations of naturally-occurring metals and other compounds.

Based on the records reviews and sampling results, no further action is recommended at the three SWMUs where there were no indications of a contaminant release and proper waste management techniques were on-going. By contrast, the sampling programs detected contaminants above background at the 17 suspected releases SWMUs included in the Phase I sampling program. Contaminants detected frequently consist of metals above background, volatile organic compounds, and semivolatile organic compounds. Pesticides, petroleum hydrocarbons, and explosives were also detected at several SWMUs. Phase II investigations, including risk assessments, are recommended for 16 of the 17 SWMUs where contaminants were detected. Although contamination was detected at SWMU 27, no further action under RCRA Corrective Action is recommended here as the contaminants detected pose no current risks and additional sampling and risk assessment will be conducted in the future as part of RCRA closure of this facility. Currently, there are sufficient data available to support the risk assessments at 6 of the 16 SWMUs recommended for risk assessments. Additional sampling is recommended at 10 of the 16 SWMUs to provide the additional data needed to support the risk assessments.

Section 1

MONTGOMERY WATSON

1.0 INTRODUCTION

1.0.0.1. This report summarizes the findings of the Phase I Resource Conservation and Recovery Act (RCRA) facility investigation (RFI) conducted at 20 solid waste management units (SWMUs) at the Tooele Army Depot, North Area, Utah (TEAD-N). Site characterization studies of TEAD-N have been conducted by the Army and its consultants since 1979 to determine the nature and extent of contamination resulting from the storage, treatment, and disposal of hazardous waste and hazardous waste constituents at various locations on the Depot. Most of the information contained in this report was generated during the Phase I RFI investigations conducted during the summer of 1992 by Montgomery Watson (Montgomery) (formerly James M. Montgomery, Consulting Engineers, Inc. (JMM)) and its subcontractors. Supplemental information contained in this report was taken from previous environmental investigations.

1.0.0.2. The RFI is being conducted by the U.S. Army Environmental Center (USAEC) (formerly the U.S. Army Toxic and Hazardous Materials Agency (USATHAMA)) and its contractors on behalf of TEAD. Montgomery's work is being performed under Task Order 0004 of Contract DAAA-15-90-D-0011.

1.1 REGULATORY BACKGROUND

1.1.0.1. After groundwater contaminated from disposal of hazardous wastes at TEAD-N was discovered, a consent decree was issued in 1986 to TEAD by the United States District Court for the District of Utah. The terms required that TEAD conduct an assessment of the groundwater quality, close an industrial wastewater lagoon and associated wastewater ditches, develop groundwater cleanup levels, and prepare a Corrective Action Plan addressing remediation of contaminated groundwater. The terms of the Corrective Action Plan are specified in a Corrective Action Permit signed by the Utah Department of Environmental Quality (formerly the Department of Health) and TEAD on January 7, 1991. In addition to requiring a clean up of the groundwater, Module VII of the Corrective Action Permit requires that TEAD conduct corrective action investigations of 46 SWMUs at TEAD-N. UDEQ and EPA divided the 46 SWMUs into three groups to implement the permit. Nine of the SWMUs known to have released contaminants to the environment comprise one group. Twenty SWMUs suspected of having released contaminants were placed in another group, and the remaining 17 SWMUs that make up the third group are included in a Federal Facility Agreement between the State of Utah, EPA and TEAD. The twenty

SWMUs suspected of having released hazardous waste or hazardous waste constituents to the environment are the subject of this Phase I RFI.

1.2 PHASE I RFI OBJECTIVE, PURPOSE, AND SCOPE

1.2.0.1. Objective and Purpose. As stated in the corrective action permit, the objective of the Phase I RCRA Facility Investigation is to document a release or absence of a release of hazardous waste or hazardous waste constituents from each SWMU. To meet this objective, the purpose of the Phase I RFI report is to evaluate all the available background and environmental information available for each of the 20 suspected releases SWMUs, determine if a release of hazardous waste or hazardous waste constituents has occurred, and prioritize each of the SWMUs where a release occurred for additional investigation according to the threat posed to human health and/or the environment. Table 1-1 contains a summary of the suspected releases SWMUs included in this investigation.

1.2.0.2. Phase I RFI Scope. According to the terms of Task Order 0004, Montgomery was requested to conduct a Phase I RFI at each of the 20 SWMUs suspected of releasing contaminants to the environment. The scope of work for the Phase I RFI consists of three main elements. First, a comprehensive set of project work plans was prepared. These included the:

- Project Management Plan (PMP)
- Data Collection Quality Assurance Plan (DCQAP)
- Health and Safety Plan (HASP)
- Data Management Plan (DMP).

The next element was an extensive field investigation in which environmental samples were collected from 17 of the 20 suspected releases SWMUs and several facility-wide monitoring and sampling programs were conducted. The final element in the Phase I RFI is the preparation of this RCRA Facility Investigation summary report.

1.3 ORGANIZATION OF THIS REPORT

1.3.0.1. The information presented in this report has been organized in accordance with the *Interim Final RCRA Facility Investigation (RFI) Guidance*. Volume 1 of the Phase I RFI (this volume) contains the text sections while volumes 2 and 3 contain the supporting data in appendices. Volume 1 contains six sections as follows: Section 1.0 is the Introduction,

TABLE 1-1

SUSPECTED RELEASES SOLID WASTE MANAGEMENT UNITS (SWMUs)

SWMU	Description	General Location	Comment
1	Main Demolition Area	SW Corner of TEAD-N	Subarea within the Open Burning/Open Detonation Areas currently used for open detonation of munitions
1a	Cluster Bomb Detonation Area	SW Corner of TEAD-N	Subarea within the Open Burning/Open Detonation Areas. Poorly defined, used for open detonation of cluster bomblets in the past
1b	Burn Pad	SW Corner of TEAD-N	Subarea within the Open Burning/Open Detonation Areas. Used for open burning of propellant in the past
1c	Trash Burn Pits	SW Corner of TEAD-N	Subarea within the Open Burning/Open Detonation Areas. Used to burn and bury dunnage in the past
1d	Propellant Burn Pans	SW Corner of TEAD-N	Subarea within the Open Burning/Open Detonation Areas. Currently used to burn propellants.
4	Sandblast Areas	Maintenance Area	Spent sandblast media collects in dumpsters at Buildings 615, 617, and 597.
14	Sewage Lagoons	West of Maintenance Area	Receives sanitary sewage from the administration and maintenance areas.
19	AED Demilitarization Test Facility	West of Ordnance Area	Building 1376. Used to test demilitarization equipment and techniques.
20	AED Deactivation Furnace Site	West of Ordnance Area	Buildings 1351, 1352, and 1356. Used to test deactivation equipment.
21	Deactivation Furnace Building	West of Ordnance Area	Building 1320. Used to Demilitarize small arms munitions.
26	DRMO Storage Yard	East Side of Maintenance Area	Building 2025, Storage Yards, and Salvage Yard

TABLE 1-1

SUSPECTED RELEASES SOLID WASTE MANAGEMENT UNITS (SWMUs) (CONTINUED)

SWMU	Description	General Location	Comment
27	RCRA Container Storage	Administration Area	Building 528. Used to store hazardous wastes needing treatment prior to disposal.
28	90-Day Container Storage Area	South Side of Maintenance Area	Buildings 596 and 585 and Open Storage Areas. Used to store hazardous wastes not requiring treatment prior to disposal
29	Drum Storage Areas	South Side of Maintenance Area	Satellite Storage Building 576. Currently used to store hazardous materials used at TEAD.
34	Pesticide Handling and Storage Area	Maintenance Area	Building 518. Used to store, batch, and load pesticides and herbicides.
37	Contaminated Waste Processing Plant	West of Ordnance Area	Building 1325. Permitted to incinerate PCP-treated wooden packaging materials.
38	Industrial Wastewater Treatment Plant	West of Maintenance Area	Used to treat wastewater from maintenance shops.
39	Solvent Recovery Facility	SW Corner of Maintenance Area	Building 600B. Used to recycle solvents.
42	Bomb Wash Out Building	North End of Administration Area	Building 539. Used in the past to reclaim small arms munitions.
43	Container Storage Areas for P999 and Mustard Agent-Filled Mortar Round Storage	18 Igloos in Ordnance Area	Igloos B1002, C117, D304, G308, G1005, J202, C902, C903, C909, C910, C912, J102, J104, J110, J201, J202, K906, and K1007.
44	Tank Storage of Trichloroethylene	South End of Maintenance Area	Formerly located in Building 620.

TABLE 1-1

SUSPECTED RELEASES SOLID WASTE MANAGEMENT UNITS (SWMUs) (CONTINUED)

SWMU	Description	General Location	Comment
45	Stormwater Discharge Area	Between Administration and Maintenance Areas	Small unlined pond that receives runoff from the administration area.
46	Used Oil Dumpsters	Various Locations in Maintenance Area	Buildings 507, 509, 510, 511, 522, 602, 607, 611, 619, 620, 621, 637, and 691.
47	Boiler Blowdown Water	Several Locations in Maintenance Area	Buildings 606, 610, and 637.

SWMU numbering corresponds to that used in Table 8, Solid Waste Management Units with Suspected Releases, of Module VII of RCRA Corrective Action Permit UT3213820894 for the Tooele Army Depot North Area, with the exceptions of SWMU-1d and SWMU-39 which were added to this list and SWMU-41 which is excluded from this list.

Section 2.0 is a description of the TEAD-N facility, and Section 3.0 is a summary of the environmental investigations conducted at TEAD-N. Also included in Section 3.0 is an overview of the Phase I RFI investigation conducted in support of this project. Section 4.0 presents a discussion of background soil conditions and a discussion of practical quantitation limits (PQLs) versus the USAEC contract reporting limits (CRLs) and how they impact the results of this investigation. Section 5.0 contains a contamination characterization for each SWMU included in this study. Section 6.0 is a summary of the results and recommendations based on the contamination characterizations. In addition to raw data, each appendix in Volumes 2 and 3 of this report is prefaced by a brief description of the types of data and their organization.

Section 2

MONTGOMERY WATSON

2.0 INSTALLATION DESCRIPTION

2.0.0.1. The following sections present the site background and physical setting of TEAD-N. Included in these sections are discussions of the location, geographic setting, soils and geology, groundwater and surface water, climate, vegetation, and wildlife of the TEAD-N area. Most of these topics have been well documented in previous investigations, particularly in the *Groundwater Quality Assessment Engineering Report to the Tooele Army Depot, Utah*, prepared by JMM (JMM, 1988), and the *Tooele Army Depot, Preliminary Assessment/Site Investigation Final Draft Report, Volume I - North Area*, prepared by EA Engineering, Science and Technology, Inc. (EA, 1988). These reports assess the regional hydrology, geology, and hydrogeology of the TEAD-N area. Much of the information in the following sections is taken from the JMM and EA reports.

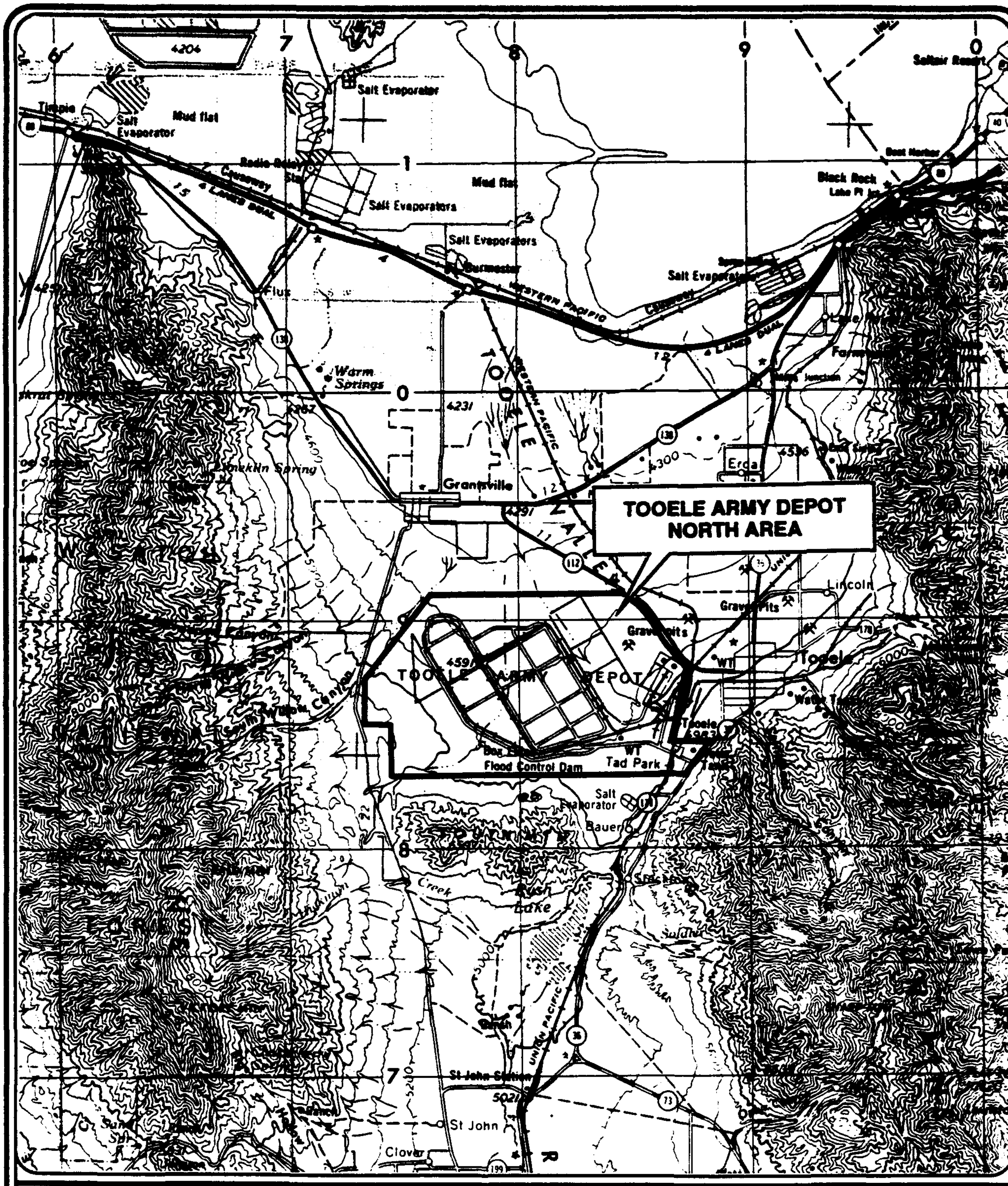
2.1 LOCATION

2.1.1. Facility Description and History

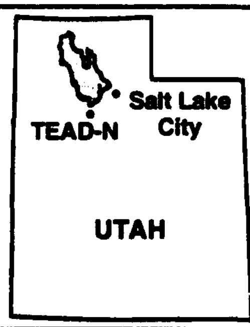
2.1.1.1. TEAD-N encompasses 24,732 acres in the Tooele Valley in Tooele County, Utah (Weston, 1990). It is located approximately 17 miles north of the Tooele Army Depot, South Area (TEAD-S) and 35 miles southwest of Salt Lake City. The Tooele Valley is bounded to the south by the Stockton Bar and South Mountain, to the west by the Stansbury Mountains, to the east by the Oquirrh Mountains, and to the north by the Great Salt Lake. The city of Grantsville is approximately two miles north of TEAD-N, and the city of Tooele is located immediately to the east. The location of TEAD-N is depicted in Figure 2-1.

2.1.1.2. TEAD-N was established as Tooele Ordnance Depot (TOD) on April 7, 1942, by the U.S. Army Ordnance Department. During World War II, TEAD was a backup depot for the Stockton Ordnance Depot and Benicia Arsenal, both in California, and eventually assumed the duties of the Ogden Arsenal (Ogden, Utah). Vehicles, small arms, and other equipment for export were stored at TEAD. It was redesignated as TEAD-N in August 1962. The developed features of TEAD-N may be grouped into four main areas: (1) the ammunition storage igloos and magazines, (2) the administrative buildings, (3) the industrial maintenance area, and (4) the open revetments.

2.1.1.3. The Tooele Army Depot (North and South Area combined) is one of the major ammunition storage and equipment maintenance installations in the U.S., and supports other Army installations throughout the western United States. The current mission of



Source: USGS Tooele, Utah 1° x 2° Quadrangle, 1970



N

0 1 2 3 4 5

Scale in Miles

MONTGOMERY WATSON

TEAD-N PHASE II RFI

SITE LOCATION MAP

FIGURE 2-1

PROJECT NO. 2942.0170

TEAD-N is to provide installation support to attached organizations and to operate other facilities, as assigned. Its major functions include the following:

- Supply, distribute, and store general supplies and ammunition
- Store strategic and critical materials
- Maintain ammunition and general supplies for TEAD-N
- Demilitarize ammunition
- Supervise training of assigned units and provide logistical support and training assistance to U.S. Army Reserves
- Design, manufacture, procure, store, and test ammunition equipment
- Repair, maintain, and store military vehicles and other equipment.

2.1.1.4. The operation of several Department of Defense installations, including TEAD-N, TEAD-S, and Dugway Proving Ground, continues to be the major industry in Tooele County.

2.1.2 Description of Surrounding Communities

2.1.2.1. Tooele Valley is mostly undeveloped, with the exceptions of the cities of Grantsville (1991 population 4,500) and Tooele (1991 population 13,887) and occasional residential developments north of Tooele City. The current population of Tooele County is 26,601 (Tooele, 1991). Grantsville is approximately two miles north of the northwest corner of TEAD-N while Tooele is next to the northeast corner of the Depot. Livestock grazing and limited cultivation predominate in the valley. Nearby commercial mining activities consist of the Carr Fork and Bingham Copper Mines located eight to ten miles to the northeast and east of TEAD-N in the Oquirrh Mountains, and the Barrack Resources Mercur Mine to the southeast.

2.1.2.2. Except for the City of Tooele, properties immediately adjacent to TEAD-N boundaries are undeveloped. Properties to the north are used for pasture while properties to the west and south are used for rangeland grazing. Properties east of TEAD-N consist of a

combination of residential portions of Tooele and undeveloped rangeland along the lower western slopes of the Oquirrh Mountains. Several gravel pits are also located southeast of TEAD-N along SR 36. Except for the southeastern portion (bounded by SR 36), TEAD-N is bounded on the east by the Union Pacific Railroad right-of-way. The Tooele Municipal Airport and scattered residential homes are located along the eastern boundary north to SR 112, which forms the northeastern boundary of TEAD-N. The area northeast of SR 112 is undeveloped except for a construction company and Tooele County Landfill.

2.2 GEOGRAPHIC SETTING

2.2.0.1. TEAD-N is located in the southern portion of Tooele Valley. Tooele Valley is bounded on the north by the Great Salt Lake at an elevation of approximately 4,200 feet above mean sea level (MSL). The eastern border of the valley is the north-south trending Oquirrh Mountains, which rise sharply from the valley floor at an elevation of approximately 5,200 feet above MSL to a maximum elevation of 10,350 feet above MSL. The western border of the Tooele Valley is formed by the Stansbury Mountains, which reach a maximum elevation of 11,301 feet above MSL. South Mountain, a relatively low-lying, east-west trending structure, and the Stockton Bar, a Pleistocene feature deposited by Lake Bonneville at its highest level, bound the valley on the south, separating Tooele Valley from Rush Valley.

2.2.0.2. Physiography. Tooele Valley is situated in the Lake Bonneville Basin of the Basin and Range physiographic province, which includes Nevada, western Utah, and portions of Arizona, California, Oregon, and Idaho. The Lake Bonneville Basin, typical of Basin and Range physiography, is characterized by alternating, isolated, north-trending, block-faulted mountains, and intermontane basins flanked by alluvial slopes.

2.2.0.3. Topography. The topography of the Tooele Valley floor is the result of coalescing alluvial fans (bajada) that were formed by debris eroded from the Oquirrh and Stansbury mountains. These fans were formed during Pleistocene time when a shallow arm of Lake Bonneville occupied the area, leaving a series of wave-cut benches and gravel bars along the margins of the valley. The Stockton Bar is the most prominent example of this type of Lake Bonneville feature.

2.2.0.4. Surfacial expressions of the influence of Lake Bonneville are present around the perimeter of the Tooele Valley. Valley topography shows evidence of wave-cut benches and shoreline erosion. The major lake levels and their dates are as follows (Currey, 1984):

Lake Level	Elevation	Time Period
• Stansbury	4,500 feet above MSL	23,000 to 20,000 years ago
• Bonneville	5,090 feet above MSL	16,000 to 14,500 years ago
• Provo	4,740 feet above MSL	14,500 to 13,500 years ago
• Gilbert	4,250 feet above MSL	11,000 to 10,000 years ago

2.2.0.5. Since TEAD-N occupies the central portion of the Tooele Valley, the alluvial fans that lie beneath the east, south, and western perimeters of the facility slope gently toward the valley center. Thus the TEAD-N topography is characterized by gently sloping surfaces dissected by a series of intermittent (ephemeral) stream channels. Average topographic gradients of the northern portion of TEAD-N are approximately 70 feet per mile and increase to about 150 feet per mile near the southern boundary in the vicinity of South Mountain. The elevation of the ground surface in the TEAD-N area ranges from about 4,500 feet above MSL at the northern boundary to about 5,200 feet on the western boundary.

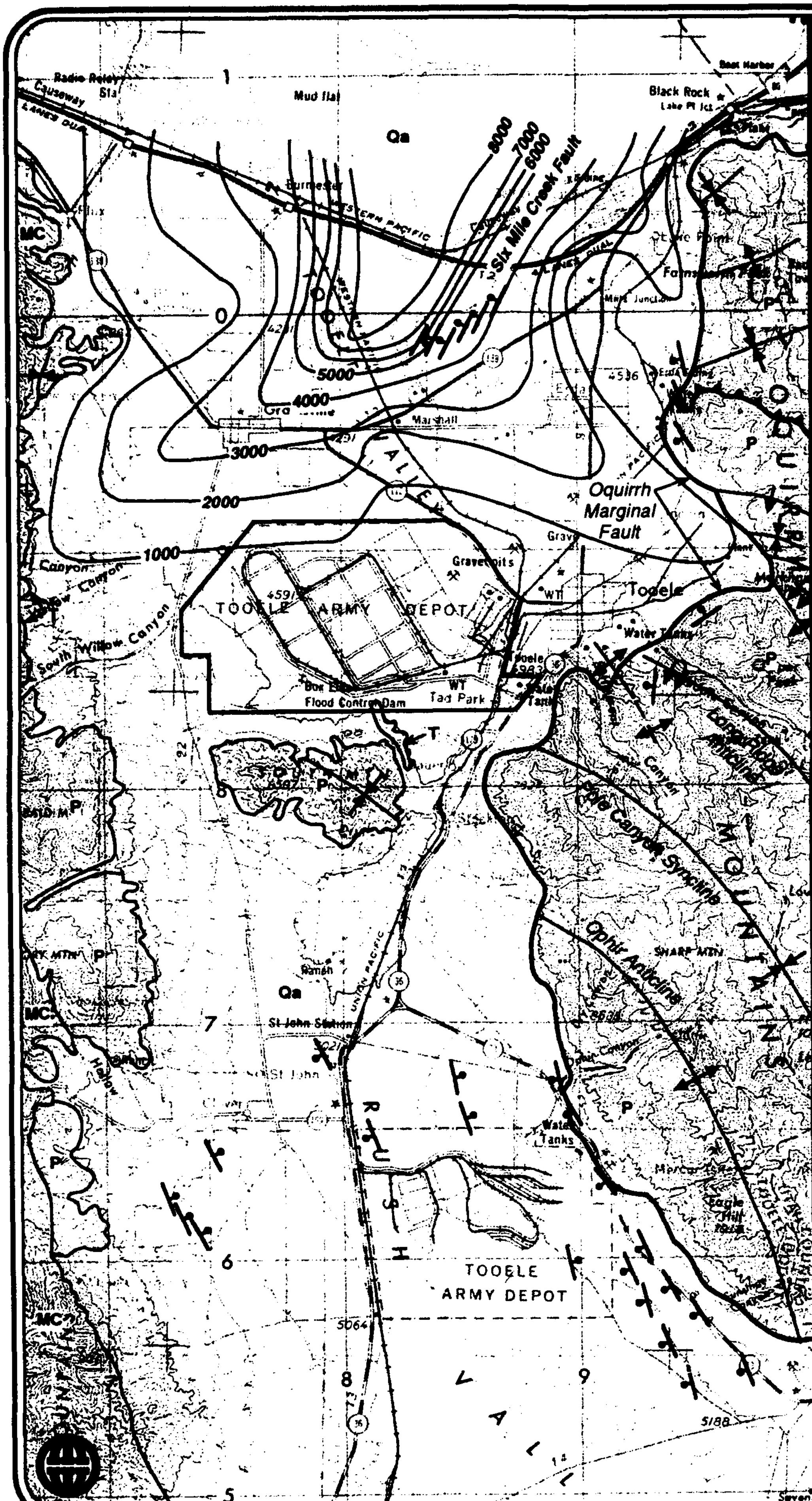
2.3 GEOLOGY AND SOILS

2.3.0.1. This section describes the geologic setting of Tooele Valley. Included here is information on the soils at TEAD-N, which were a major focus of the RFI investigations. Since geologic conditions at TEAD-N are similar to those throughout the Tooele Valley, the following description of regional geology serves as an introduction to site geology.

2.3.1. Regional Geology

2.3.1.1. As discussed earlier, the Tooele Valley is bounded by Basin and Range block-faulted mountain on three sides. The Oquirrh Mountains to the east and South Mountain to the south are composed primarily of extensively folded and faulted, alternating beds of quartzite and limestone of late Mississippian, Pennsylvanian, and early Permian age. The composition of the Stansbury Mountains to the west is similar, with the exception of the occurrence of Cambrian quartzite. Gravity surveys indicate that many faults are present in the bedrock beneath the valley. This suggests that the Tooele Valley basin is probably not a single down-faulted structural depression, but is more likely a complex collection of troughs and ridges caused by several down-faulted blocks (ERTEC, 1982). The geology of the region is depicted in Figure 2-2.

2.3.1.2. Tooele Valley is filled with a thick sequence of unconsolidated sediments of Tertiary and Quaternary Age. The older Tertiary sediments comprise the Salt Lake



EXPLANATION

Qa — Quaternary alluvium

T — Tertiary volcanics

P — Pennsylvanian and Permian sediments

MC — Mississippian through Cambrian sediments

Estimated thickness of basin fill (feet)

Axis of syncline

Axis of anticline

Overturned anticline

Thrust fault—sawteeth on upper plate

Fault—dot on downthrown side

Adapted from:
Everitt and Kaliser, 1980
Moore and Sorensen, 1978
Tooker and Roberts, 1970

Base map reference:
USGS, Tooele, Utah
1° x 2° Quadrangle, 1970

0 1 2 3 4 5

Scale in Miles

TEAD-N PHASE I RFI
GEOLOGIC MAP OF TOOELE VALLEY
FIGURE 2-2

PROJECT NO. 2942.0140

Group and consist of moderately consolidated sand, gravel, silt, and clay with an abundance of volcanic ash (Everitt and Kaliser, 1980). The younger Quaternary sediments consist of interlayered and unconsolidated sand, gravel, silt, and clay, including sediments deposited before, during, and after the existence of Lake Bonneville. The thickness of the valley sediments ranges from a few feet at the margins of the valley to over 8,000 feet in the north central part of the valley (Everitt and Kaliser, 1980). The contact between the Tertiary and Quaternary sediments was reported to be between 800 and 900 feet below the ground surface (ERTEC, 1982).

2.3.1.3. Bedrock beneath the unconsolidated sediments of the Tooele Valley consists of alternating quartzite and limestone beds similar to the late Paleozoic rocks found in the Stansbury Mountains, Oquirrh Mountains, and South Mountain.

2.3.1.4. Several potentially active faults were identified in the Tooele Valley by Everitt and Kaliser (1980); two of these faults are located near TEAD (Figure 2-2). The Oquirrh marginal fault was observed along the base of the Oquirrh Mountains, just east of the City of Tooele. Evidence of post-Lake Bonneville (less than 18,000 years ago) and post-Holocene displacement (less than 10,000 years ago) was interpreted from fault scarps south of Middle Canyon and northward to Bates Canyon and Lake Point. Post-Holocene movement was also interpreted from scarps along the Six-Mile Creek fault north of Grantsville. These faults are the likely result of geologically recent Basin and Range tectonism.

2.3.2. Site Geology and Soils

2.3.2.1. Unconsolidated alluvial and lacustrine valley fill lies beneath most of TEAD-N. These sediments consist of clay and silt interbedded with sand, gravel, and cobbles eroded from the Oquirrh and Stansbury Mountain ranges. Geologic conditions beneath TEAD-N are similar to those found elsewhere in the Tooele Valley, with the valley fill overlying Paleozoic limestone, quartzite, and sandstone formations. Since both the unconsolidated valley fill and bedrock occur at TEAD-N, they are discussed separately in the following paragraphs.

2.3.2.2. Valley Fill Deposits. The unconsolidated quartzite, sandstone, and limestone alluvium underlying TEAD-N is typical of alluvial fan deposits, consisting of poorly sorted clayey and silty sands, gravels, and cobbles. Lateral changes in the coarseness of the granular sediments are apparent across TEAD-N. In general, the sediments tend to

become finer grained as distances from the source areas increase. Along the east margin of the Depot, coarse, silty gravels, with some cobbles and boulders are the predominant soil types. The coarse-grained layers are composed of fine and coarse gravels with varying fractions of sands and cobbles, and they comprise productive aquifer zones when saturated. By contrast, sediments beneath the central, western, and northern parts of the Depot are silts, fine sands, and gravels. The finer soils are typically yellowish brown to grayish orange with varying concentrations of brown, yellow, and orange quartzite and dark gray limestone clasts.

2.3.2.3. Erosion and deposition of the valley fill was influenced by climate, precipitation rates, and periods of inundation by Lake Bonneville. As a result, the sediments have been reworked, and units that may have been deposited contemporaneously may not appear to be the same unit. Consequently, lithologic correlation between alluvial units over long distances is difficult. However, continuous fine-grained layers (silty clays and clayey silts) have been observed in soil borings in the north eastern portion of TEAD-N (JMM, 1988).

2.3.2.4. Fine-grained layers within the valley fill have been estimated to range from less than 10 feet to more than 70 feet thick. The fine-grained layers are composed of varying fractions of clayey silt, silty clay, and silty, fine to coarse sand. Because the permeability of the fine-grained materials is low, they can act as barriers to groundwater movement. These fine-grained layers are believed to be areally continuous, and in areas north of the TEAD-N boundary they maintain hydraulic heads between different water-bearing zones beneath the same location.

2.3.2.5. Evidence of bedding was also identified from seismic refraction surveys conducted by ERTEC (1982). Three distinct velocity layers were identified and interpreted to represent colluvium, uncemented conglomerate, and cemented conglomerate in order of increasing depth. Investigations by JMM (1988) also indicate cemented gravels are present at TEAD-N. Samples from deep soil borings revealed cemented gravels at depths greater than 350 feet below ground surface (bgs) beneath the northern portion of TEAD-N and north of the TEAD-N boundary (JMM, 1988).

2.3.2.6. Although the deeper gravels are believed to be cemented, evidence from drilling indicates that the cement does not completely fill the voids between clasts. Examination of drill cutting samples from the cemented zones reveal that a rind-like calcareous coating exists on the surface of many of the gravel clasts.

2.3.2.7. Bedrock. Bedrock in the Tooele Valley has been subjected to many geologic forces throughout history. Laramide folding during the late Cretaceous, Basin and Range faulting during the Miocene and Pliocene, and eastward tilting of the Oquirrh Mountains during the Pliocene and Pleistocene have created multiple fault blocks composed of highly deformed Paleozoic rocks. In addition to the structural deformation, bedrock has been extensively weathered through repeated inundations by Lake Bonneville and silicified and altered by hydrothermal fluids (Tooker and Roberts, 1970).

2.3.2.8. Little bedrock is exposed at TEAD-N. Therefore, existing TEAD-N bedrock data are based on investigations of the closed Industrial Wastewater Lagoon (IWL) and on geophysical surveys conducted over the entire TEAD-N area. The most significant bedrock features are a series of limestone and quartzite outcrops located approximately 1,000 feet north of the closed IWL in the north east portion of TEAD-N, as depicted in Figure 2-3. Borehole and geophysical data indicate that bedrock in this area occurs as a topographically high, elongated block, oriented northeast to southwest, with deeper suballuvial flanks extending to the southwest and southeast.

2.3.2.9. Bedrock beneath the north east portion of TEAD-N consists of brown and gray quartzite and blue-gray and black limestone. Depths to bedrock range from surface outcrops in the northeast corner of TEAD-N to more than 2,000 feet bgs in the south-central portion of the facility. The depth to bedrock across TEAD-N is shown in Figure 2-3.

2.3.2.10. Fractures measured in the bedrock outcrops during previous investigations were generally vertical or near vertical with strikes of about 30° to 50° west of north (JMM, 1988). These directions are approximately perpendicular to the bedding attitudes observed in the outcrops. Evidence of extensive bedrock fracturing was revealed during previous investigations (JMM, 1988). Specifically, the dolomite or argillaceous limestone in the area beneath the IWL and the interbedded sandstone and quartzite at the northwest end of the bedrock block showed evidence of extensive fracturing. Diamond drill cores of these beds revealed zones of open fractures and dissolution cavities that appear to have developed primarily along fracture planes (JMM, 1988). The presence of the open fractures and dissolution zones, combined with the uniform groundwater elevations observed in the bedrock body, suggest that groundwater conditions in the bedrock are largely controlled by these features (JMM, 1988).

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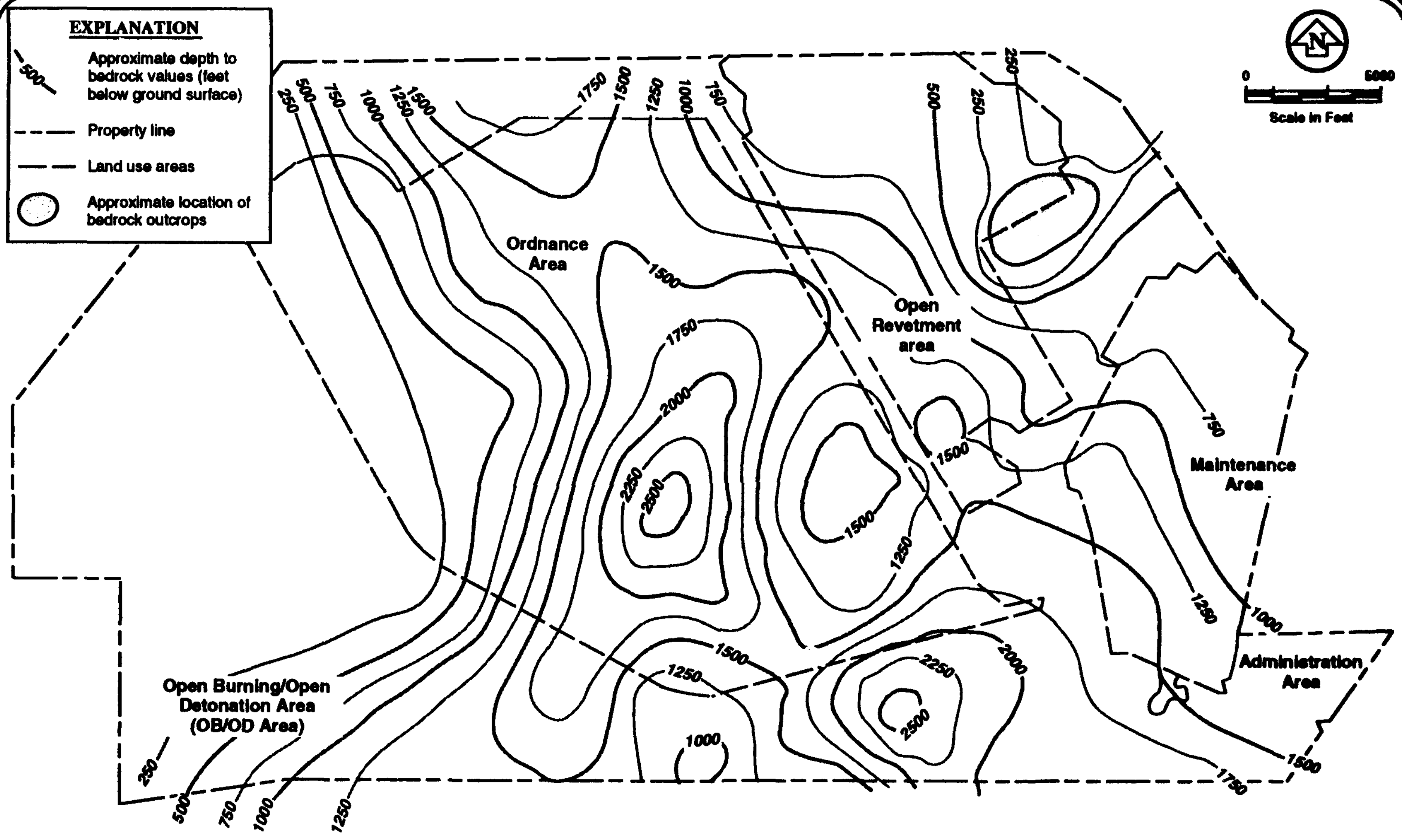


Notes: Depth of bedrock contours based on geophysical survey, ERTEC, 1982;
Bedrock boreholes in the eastern portion of TEAD-N generally confirm geophysical survey.

Source: Office of the Facilities Engineer, Tooele Army Depot, July 1989;ERTEC, 1982

TEAD-N PHASE I RFI
DEPTH TO BEDROCK CONTOUR MAP
FIGURE 2-3

2.3.2.11. Surface and Near-Surface Soils. Surface and near-surface soil characteristics in the TEAD-N investigation areas reflect the topographic location and the geologic materials from which they were formed. The soils consist primarily of gravelly loam, loam, or fine sand that developed on alluvial deposits or lacustrine sediments. According to unpublished soils maps of the Tooele Valley, the primary surface soils identified at TEAD-N consist of the following soil series (USSCS, 1991):

- Abela
- Berent
- Hiko Peak
- Birdow
- Medburn

2.3.2.12. Soils that develop in semi-arid climates do not develop strong diagnostic horizons. In general, these soils are deep, well-drained, moderately permeable, and alkaline (i.e., pH greater than 7). Water and wind erosion potentials for these soils are considered moderate and slight, respectively. The Abela, Hiko Peak, Birdow, and Medburn soil series contain inclusions of other soil types. However, the inclusions are either intermingled with the main soil type, or their area is too small to map independently. As a consequence, the inclusions are not identified in the major mapping units.

2.3.2.13. The most important difference between the main soil types and the inclusions is texture change (particle size). Soil particle size (percent gravel, sand, silt, and clay) is one of the principal factors determining the chemical and hydraulic properties of soil. Table 2-1 provides a detailed description of the primary soil series and the inclusions found at TEAD-N in each soil series mapping unit. A map of the USSCS soil units present at TEAD-N is presented in Figure 2-4. This figure also shows the RFI background soil boring locations.

2.4 GROUNDWATER AND SURFACE WATER

2.4.1. Groundwater

2.4.1.1. Regional Hydrogeology. Most of the usable groundwater in the Tooele Valley occurs in the valley fill deposits, and to a lesser extent, in the underlying bedrock. Because the valley fill deposits are generally coarse-grained, they form a productive aquifer

TABLE 2-1

GENERAL CHARACTERISTICS OF SURFACE SOIL OF TEAD-N INVESTIGATION AREA

Mapping Unit	Soil Type	Origin	General Location	Characteristics: Texture	Depth (Feet BGS)	Soil pH	Permeability	Infiltration Rate (cm/sec)
Abela Included in this unit are Borvant and Birdow soils.	Abela	Developed in alluvium derived primarily from limestone and quartzite.	Alluvial fans on 1 to 8 percent slopes at elevations of 4,600 to 6,000 feet above MSL.	Gravelly loam (GM-GC; SC-SM)	0 to 0.8	7.9 to 8.4	Mod. rapid	$1.4x10^{-3}$ to $4.2x10^{-3}$
				Very gravelly loam GC-GM)	0 to 1.7	7.9 to 9.0	Mod. rapid	$1.4x10^{-3}$ to $4.2x10^{-3}$
				Very gravelly loam to extremely gravelly sandy loam (GM-GC; GP-GM)	1.7 to 5	8.5 to 9.0	Mod. rapid	$1.4x10^{-3}$ to $4.2x10^{-3}$
	Borvant	Developed in alluvium derived predominantly from limestone.	Shallow soil over a carbonate cemented hardpan on fan terraces on short or medium length, convex, 2 to 15 percent slopes at elevations of 5,200 to 6,500 feet above MSL.	Gravelly loam (GM-GC, SC-SM)	0 to 0.5	7.4 to 9.0	Moderate	$4.2x10^{-4}$ to $1.4x10^{-3}$
				Very gravelly loam (GM-GC)	0.5 to 1.5	7.9 to 9.0	Moderate	$4.2x10^{-4}$ to $1.4x10^{-3}$
				Indurated	1.5	NA	NA	NA
Berent-Hiko Peak Complex. Included in this unit are Amtoft, Medburn, Sprager, Taylorsflat, Duneland, and Rock Outcrop soils.	Berent	Eolian sands derived from mixed rock types.	Hummocky vegetated sand dunes and fan terraces up to 30 percent slopes at elevations of 4,500 to 5,800 feet above MSL.	Loamy fine sand (SM)	0 to 0.5	7.4 to 8.4	Rapid	$4.2x10^{-3}$ to $1.4x10^{-2}$
				Fine sand (SM)	0.5 to 5	7.9 to 9.0	Rapid	Greater than $1.4x10^{-2}$
	Hiko Peak	Developed in alluvium from mixed rock types.	Alluvial fan terraces on medium length, convex, 2 to 15 percent slopes at elevations of 4,400 to 6,000 feet above MSL.	Gravelly loam (GM-GC)	0 to 0.5	7.9 to 8.4	Mod. Rapid	$1.4x10^{-3}$ to $4.2x10^{-3}$
				Very gravelly loam (GM-GC)	0.5 to 1	7.9 to 9.0	Mod. Rapid	$1.4x10^{-3}$ to $4.2x10^{-3}$
				Very gravelly loam (GM-GC)	1 to 5	8.5 to 9.0	Mod. Rapid	$1.4x10^{-3}$ to $4.2x10^{-3}$
	Amtoft	Developed in alluvium derived from mixed rock types.	Rock outcrops on 30 to 70 percent slopes.	Very cobbly loam (GM-GC)	0 to 1	7.9 to 9.0	Mod. rapid	$1.4x10^{-3}$ to $4.2x10^{-3}$
				Extremely cobbly loam (GM-GC; GP-GC)	1 to 1.5	7.9 to 9.0	Mod. rapid	$1.4x10^{-3}$ to $4.2x10^{-3}$
				Unweathered bedrock	1.5	NA	NA	NA
	Spager	Developed in allumium derived from limestone.	Alluvial fan terraces on 2 to 15 percent slopes at elevations of 5,200 to 6,200 feet above MSL.	Gravelly loam (GM-GC; SC-SM).	0 to 0.5	7.4 to 9.0	Mod Rapid	$1.4x10^{-3}$ to $4.2x10^{-3}$
				Very gravelly loam, very gravelly fine sandy loam (GM-GC).	0.5 to 2	Greater than 8.4	Mod Rapid	$1.4x10^{-3}$ to $4.2x10^{-3}$
				Indurated	2	NA	NA	NA

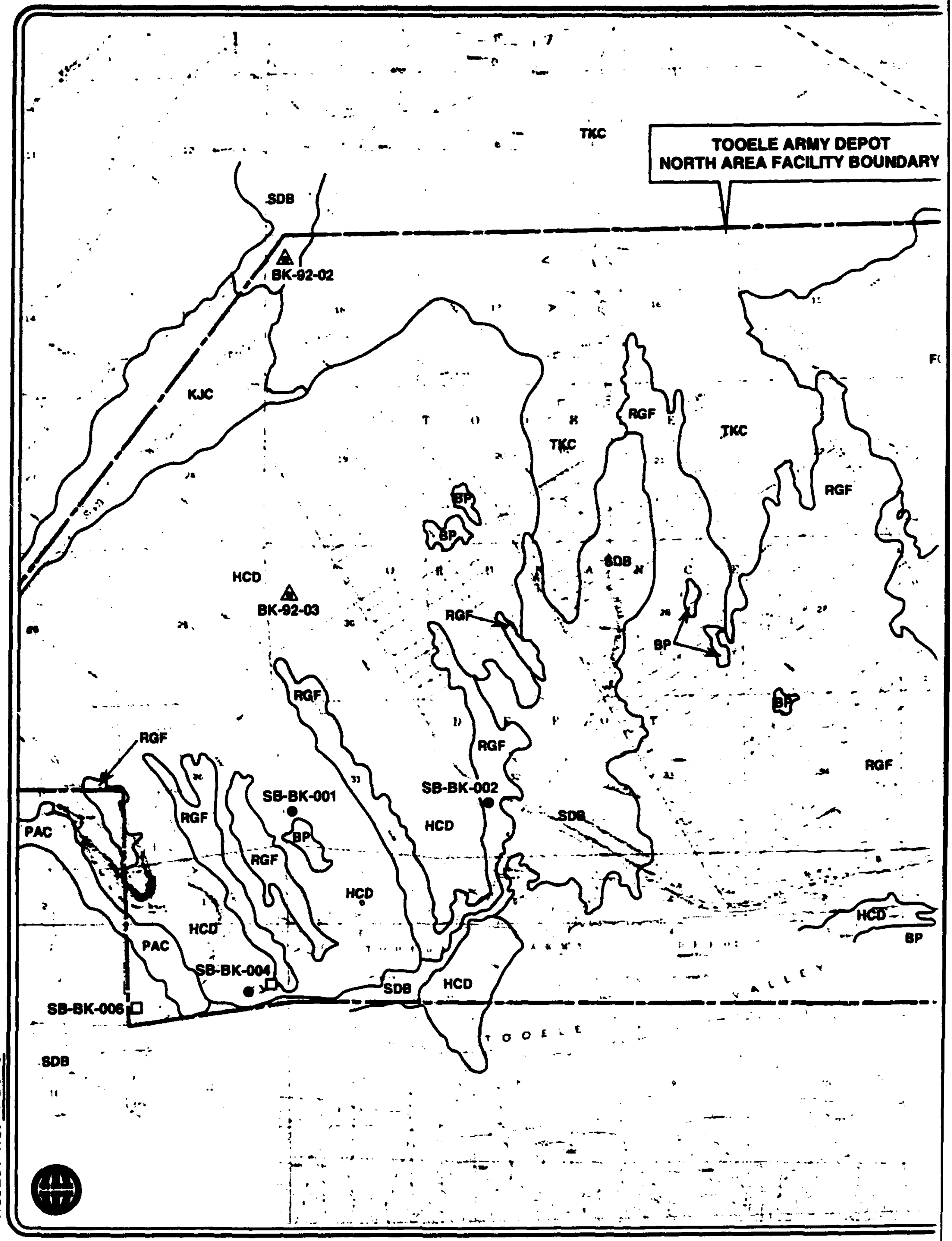
TABLE 2-1

GENERAL CHARACTERISTICS OF SURFACE SOIL OF TEAD-N INVESTIGATION AREA
(CONTINUED)

Mapping Unit	Soil Type	Origin	General Location	Characteristics: Texture	Depth (Feet BGS)	Soil pH	Permeability	Infiltration Rate (cm/sec)
	Taylorsflat	Alluvium and lacustrine sediments derived from mixed rock types.	Lake terraces and alluvial fan terraces on medium length, linear to convex, 1 to 5 percent slopes at elevations of 5,000 to 6,000 feet above MSL.	Loam (CL-ML)	0 to 0.5	7.9 to 8.4	Mod. Slow	$4.2x10^{-4}$ to $1.4x10^{-3}$
				Loam (CL-ML)	0.5 to 1.0	7.9 to 8.4	Mod. Slow	$1.4x10^{-4}$ to $1.4x10^{-3}$
				Loam (CL-ML)	1.0 to 4	8.5 to 9.0	Mod. Slow	$1.4x10^{-4}$ to $1.4x10^{-3}$
				Loam (CL-ML)	4 to 5	8.5 to 9.0		$1.4x10^{-4}$ to $1.4x10^{-3}$
	Duneland	Sand; derived from mixed rock types.	Ridges and intervening troughs made of fine sand sized particles on lake plains and low lake terraces.	Sand (SM-SW)	NA	NA	NA	NA
	Rock outcrop	Dependant on the type of bedrock.	Exposures of barren bedrock that occur mainly on escarpments or ridges. Slopes range from 30 to 60 percent.	NA	NA	NA	NA	NA
Medburn. Included in this unit are Hiko Peak and Taylorsflat soils.	Medburn	Developed in alluvium and lacustrine sediments, derived predominantly from sedimentary rocks.	Lake terraces and alluvial fan terraces on short or medium length, convex or linear, 2 to 8 percent slopes at elevations of 4500 to 5800 feet above MSL.	Fine sandy loam (SM; SC-SM)	0 to 0.5	7.9 to 8.4	Mod. rapid	$1.4x10^{-3}$ to $4.2x10^{-3}$
				Fine sandy loam (SM; SC-SM)	0.5 to 3.5	7.9 to 9.0	Mod. rapid	$1.4x10^{-3}$ to $4.2x10^{-3}$
				Fine sandy loam (SM; SC-SM)	3.5 to 5	8.5 to 9.0	Mod. rapid	$1.4x10^{-3}$ to $4.2x10^{-3}$
Birdow. Included in this unit are Erda and Lakewin soils.	Birdow	Developed in alluvium derived predominantly from limestone and quartzite.	Flood plains, stream terraces, and alluvial fans on long, linear, or slightly concave 1 to 4 percent slopes at elevations from 4,250 to 6,200 feet above MSL.	Loam (CL-ML)	0 to 2.3	7.4 to 8.4	Moderate	$4.2x10^{-4}$ to $1.4x10^{-3}$
				Loam (CL-ML)	2.3 to 5	7.9 to 9.0	Moderate	$4.2x10^{-4}$ to $1.4x10^{-3}$
	Erda	Developed in alluvium and lacustrine sediments derived from mixed rock types.	Alluvial fan terraces and lake terraces on 1 to 5 percent slopes at elevations of 4,250 to 6,000 feet above MSL.	Silt loam (CL-ML)	0 to 1	7.4 to 8.4	Mod. Slow	$1.4x10^{-4}$ to $4.2x10^{-4}$
				Silt loam (CL-ML)	1 to 3	7.9 to 9.0	Mod. Slow	$1.4x10^{-4}$ to $4.2x10^{-4}$
				Silt loam, silty clay loam (CL-ML)	3 to 5	7.9 to 9.0	Mod. Slow	$1.4x10^{-4}$ to $4.2x10^{-4}$

Source: Taken from USSCS, 1991a.

NA Not available



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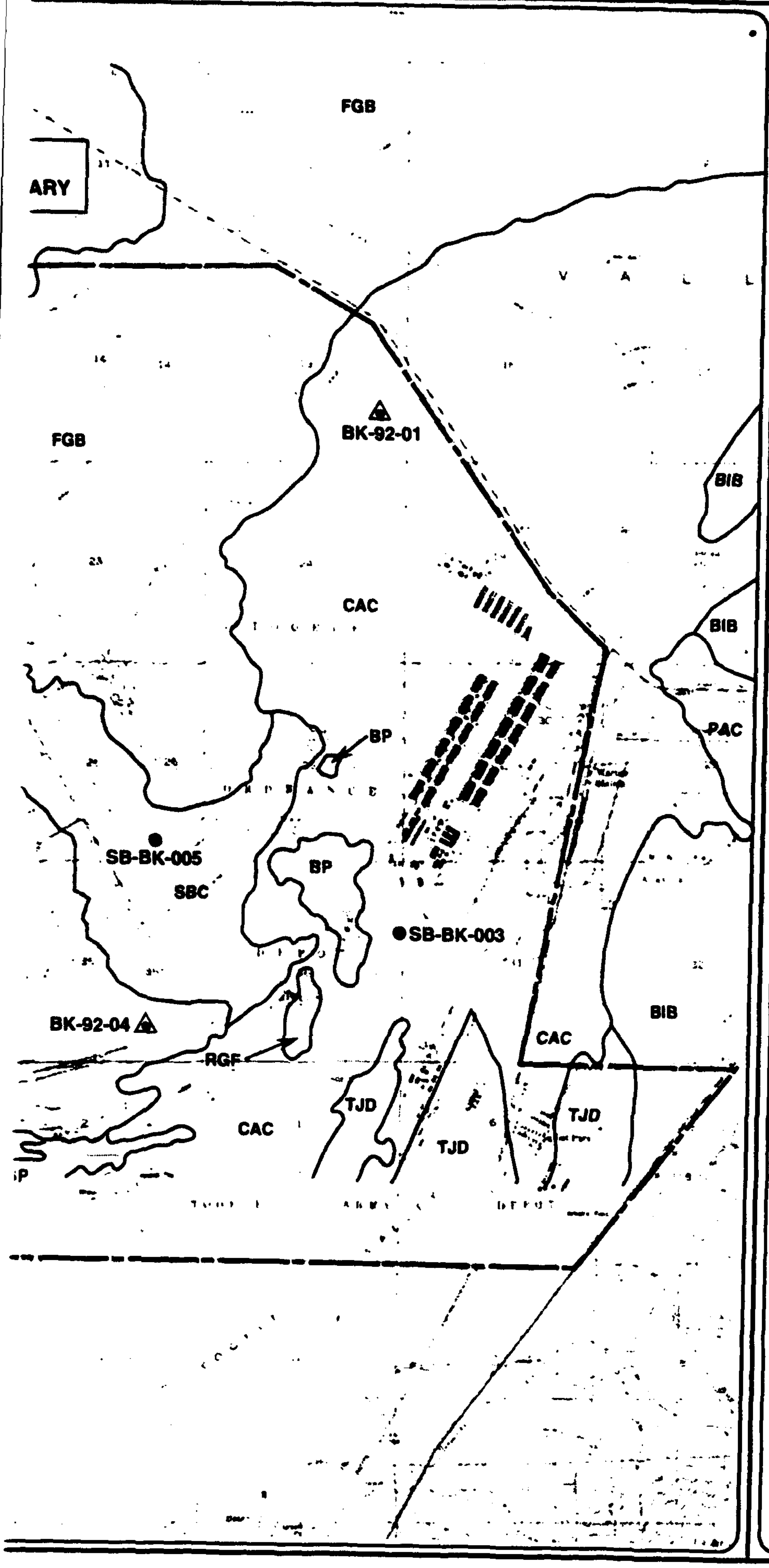


EXPLANATION

BP	Borrow Pits
BIB	Lakewin Series
CAC	Abela Series
FGB	Manessa Series
HCD	Hiko Peak Series
KJC	Hiko Peak — Taylorsflat Complex Series
PAC	Birdow Series
RGF	Berent — Hiko Peak Complex Series
SBC	Medburn Series
SDB	Medburn Saline Series
TJD	Doyce Series
TKC	Taylorsflat Series
● SB-BK-003	Background soil sample location (JMM)
▲ BK-92-01	Background soil sample location (SEC Donohue)
□ SB-BK-006	Deep background soil boring location

Source: USSCS, 1991b

N

0 4000

Scale in Feet

TEAD N

SOIL TYPE MAP

FIGURE 2-4

B

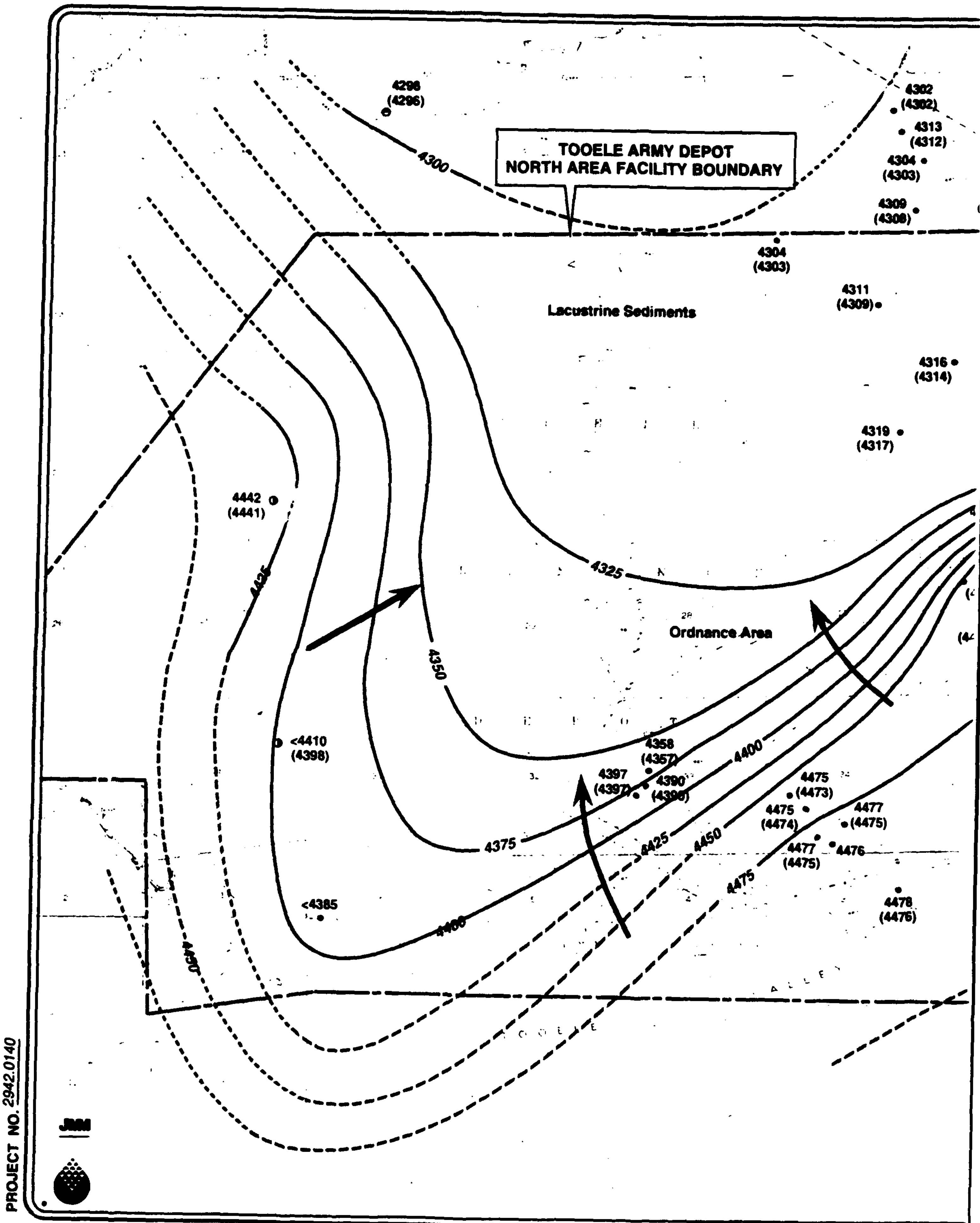
system when saturated. Although little is known about the water-bearing characteristics of the bedrock aquifer, it is important to the Tooele Valley hydrogeologic system because it serves as a source of underflow to the valley fill along the margins of the Tooele Valley (JMM, 1988).

2.4.1.2. The valley fill aquifer is composed of saturated valley fill sediments. The most productive zones of this aquifer correspond to areas underlain by coarse sediments. The city of Tooele operates several production wells that draw water from the valley fill aquifer just east of the eastern Depot boundary. In addition, the Depot operates six production wells that tap the valley fill aquifer. North of the Depot, the numerous private wells constructed in the valley fill sediments supply water for irrigation, stock watering, and culinary uses.

2.4.1.3. The bedrock aquifer consists primarily of the quartzites and limestones located adjacent to and beneath the valley fill sediments. In general, these rocks exhibit low primary permeability. However, secondary permeability can be relatively high locally, due to the presence of fractures and solution openings in the bedrock (JMM, 1988). No known production wells are completed in the bedrock aquifer, although there are numerous groundwater monitoring wells.

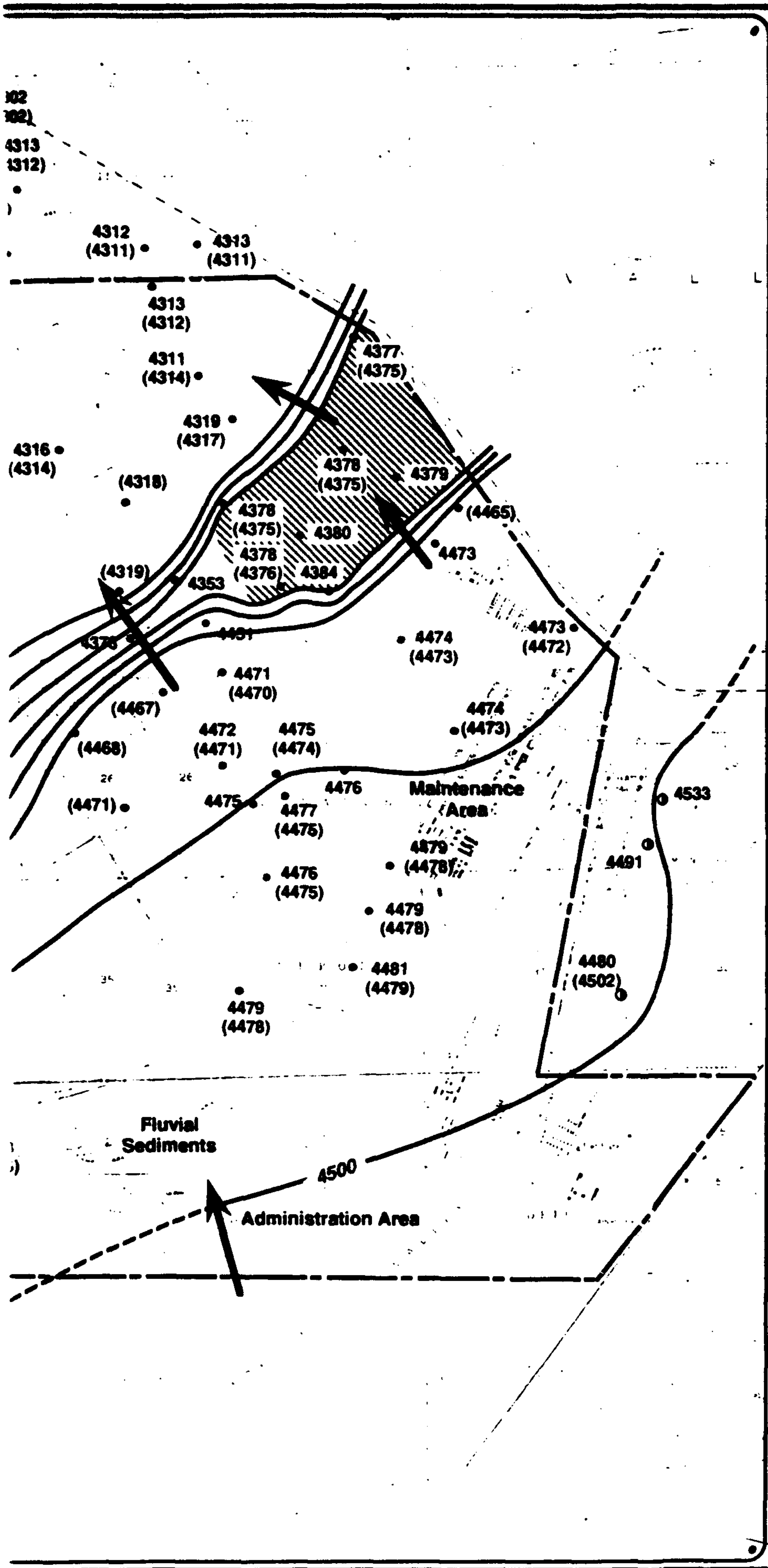
2.4.1.4. Regionally, groundwater originates at recharge areas along the basin margins and moves inward toward the center of the Tooele Valley. Groundwater flows northward toward the Great Salt Lake and ascends to discharge areas in the northern parts of the valley. Recharge zones along the valley margins and upper reaches of the valley are characterized by downward vertical gradients. Major groundwater discharge areas exist in areas north of TEAD-N where numerous springs and artesian wells are found. Piezometers and monitoring wells installed near the northern TEAD-N boundary revealed upward vertical gradients in that area (JMM, 1988).

2.4.1.5. **Site Hydrogeology.** As with the other parts of the Tooele Valley, the aquifer system beneath TEAD-N is composed of bedrock overlain by an extensive valley fill aquifer. As shown in Figure 2-5, the bedrock aquifer occurs beneath a relatively small area of TEAD-N, while the remainder of TEAD-N and the Tooele Valley is directly underlain by the valley fill aquifer. While both the valley fill and bedrock aquifers have unique hydraulic characteristics, they readily communicate groundwater and are, therefore, considered to comprise a single aquifer system (JMM, 1988). As shown in Figure 2-5, the groundwater table in the valley fill and bedrock aquifers is present at three distinct elevations separated by areas of steep hydraulic gradients that trend northeast to



TOOELE ARMY DEPOT
NORTH AREA FACILITY BOUNDARY
Lacustrine Sediments
Ordnance Area
4300
4325
4350
4375
4400
4425
4450
4475
4298 (4296)
4302 (4302)
4313 (4312)
4304 (4303)
4309 (4308)
4304 (4303)
4311 (4309)
4316 (4314)
4319 (4317)
4442 (4441)
<4410 (4398)
<4385
4358 (4357)
4397 (4397)
4390 (4390)
4475 (4473)
4475 (4474)
4477 (4475)
4477 (4475)
4476
4478 (4476)
PROJECT NO. 2942.0140

H



EXPLANATION

- Existing monitoring wells and piezometers
- Municipal and TEAD-N water supply wells
- Private wells
- Interpretive groundwater flow direction
- 4475 Groundwater elevation contour (feet, MSL) dashed where inferred.
- Area of shallow bedrock aquifer
- 4378 Groundwater elevation, June 1992 (feet, NGL)
- (4375) Groundwater elevation, January 1993

Base map reference: USGS 7.5 minute quadrangles — "Tooele, Utah" and "Grantsville, Utah."

0 4000

Scale in Feet

TEAD-N PHASE I RFI

GROUNDWATER ELEVATION CONTOUR MAP JUNE 1992–JANUARY 1993

FIGURE 2-5

B

southwest beneath the Depot. Because of the different hydraulic characteristics exhibited by both aquifers, they are described separately in the following paragraphs.

2.4.1.6. Valley Fill Aquifer. The valley fill aquifer consists of two areas of saturated alluvium and lacustrine sediments composed primarily of gravels, with major interbeds of varying concentrations of sands, silts, and clays. During June, 1992, groundwater elevations beneath the southeast corner of TEAD-N ranged from 4,475 to 4,485 feet. By contrast, groundwater elevations beneath the north and west portions of the Depot were about 100 feet lower at 4,375 to 4,380 feet during the same time period.

2.4.1.7. Aquifer thicknesses range from zero at the bedrock block outcrops north of the IWL area to more than 750 feet near the northern boundary of TEAD-N. Although the valley fill aquifer contains alternating discontinuous layers of fine- and coarse-grained sediments, it is considered to be a single aquifer system because no confining layers have been identified by investigations conducted of the southern end of the Tooele Valley. However, the contrast between the hydraulic conductivities of the fine-grained and coarse-grained layers is sufficient to maintain different hydraulic heads between layers beneath the northern area of the Tooele Valley (JMM, 1988).

2.4.1.8. The average horizontal hydraulic conductivity of the valley fill aquifer is approximately 1,500 gallons per day per square foot (gpd/ft^2) or 7.1 x 10^{-2} centimeters per second (cm/s), whereas the average vertical hydraulic conductivity is approximately 225 gpd/ft^2 (1.1 x 10^{-2} cm/s). Because of the heterogeneity of the sediments, calculated groundwater velocities range from about 4 feet per year (ft/yr) to greater than 9,800 ft/yr (JMM, 1988). Based on the vertical hydraulic conductivity values, the average calculated vertical groundwater velocity ranges from less than .1 to 200 ft/yr (JMM, 1988). The average porosity of the alluvial aquifer was estimated to be 25 percent.

2.4.1.9. Bedrock Aquifer. The bedrock aquifer consists of the saturated parts of a large bedrock block which lies directly beneath a portion of the eastern part of TEAD-N. The bedrock block is elongated in a northeast to southwest direction and lies beneath the ground surface at depths ranging from zero to nearly 400 feet. The bedrock is composed of calcareous, cemented quartzite, silica - cemented ortho-quartzite, calcareous sandstone, and fine-grained limestone. Although the permeability of the bedrock material itself is very low, there is strong evidence that extensive fracturing in the bedrock allows considerable groundwater flow.

2.4.1.10. Production rates from monitoring wells drilled in the bedrock aquifer vary widely and depend upon the amount of fracturing penetrated. The hydraulic conductivity of the quartzite bedrock is estimated at 2,000 gpd/ft^2. Where the bedrock contains clay-filled fractures, the hydraulic conductivity is estimated to be two gpd/ft^2. The hydraulic gradients in the bedrock block range from 0.02 to 0.09 feet per foot (ft/ft). The horizontal velocity of groundwater in the bedrock block ranges from less than 10 ft/yr to about 5,500 ft/yr. The average porosity of the bedrock is estimated to be three percent (JMM, 1988).

2.4.1.11. Groundwater Chemistry. Based on extensive water quality analyses, three major, naturally-occurring groundwater types were identified at TEAD-N (Types 1, 2, and 3), which were differentiated from each other based on the concentrations of major ions (e.g., calcium, magnesium, potassium, sulfate, chloride, nitrate, fluoride, and bicarbonate [JMM, 1988]). These three water types are generally found in specific geographic areas across TEAD-N, although overlap occurs.

2.4.1.12. Type 1 groundwater occurs generally within the valley fill and bedrock aquifers on the eastern and western portions of the site and reflects the influence of mixing with recharge waters from the mountains. Type 1 groundwater is characterized as a bicarbonate water (does not contain dominant cations or anions) that is typical of groundwater in recharge areas derived from precipitation. In addition, sodium concentrations are lower with respect to chloride compared to other groundwater types. The city of Tooele production wells and most TEAD-N water supply wells intercept Type 1 groundwater.

2.4.1.13. Type 2 groundwater reflects the influence of mixing with more saline water from the bedrock aquifer and from underflow from Rush Valley and occurs in the northern, southern, and central portions of TEAD-N. It is characterized by higher concentrations of all major ions, specifically chloride and sodium, than Type 1 groundwater.

2.4.1.14. Type 3 groundwater occurs in the valley fill aquifer north of the TEAD-N boundary, beneath the off-Depot area investigated by JMM (1988). Type 3 groundwater is characterized by the highest concentrations of sodium and chloride, calcium, and sulfate. Type 3 groundwater mixes with geothermal waters to the north of TEAD-N, and because of slightly elevated temperatures is considered geothermal groundwater.

usage, and industrial use accounted for the remainder. Approximately 40 percent of total annual discharge from the Tooele Valley groundwater system is to wells, with the remaining discharge attributed to springs, evapotranspiration, and underflow to the Great Salt Lake. Previous reports estimate that TEAD-N usage accounts for only 4 percent of water use within Tooele Valley (JMM, 1988).

2.4.1.16. Several large irrigation and livestock supply wells are located north of TEAD-N. These irrigation and stock wells are pumped in the summer months and may locally affect the groundwater flow system near TEAD-N during this period (WCC, 1986).

2.4.2. Surface Water Hydrology

2.4.2.1. There are five perennial streams in the Tooele Valley, with a total discharge of approximately 17,000 acre-feet of water per year (Razem and Steiger, 1981). These streams originate in the mountains above the Tooele Valley in response to rapid snowmelt and summer thunderstorms. Two streams originate in the central Oquirrh Mountains at the eastern side of the valley and enter the valley near Tooele, and the other three originate in the central Stansbury Mountains on the western side of the valley.

2.4.2.2. No perennial streams exist at TEAD-N, although the western border is cut by ephemeral stream drainages from South Willow and Box Elder Canyons. South Willow Creek, near the northwest boundary of TEAD-N, is the largest stream in the Tooele Valley, with an annual flow of approximately 4,830 acre-feet. Box Elder Wash, which crosses TEAD-N from south/southwest to north, is an ephemeral stream that has an annual discharge of approximately 900 acre-feet. Except during rare periods of heavy rain or rapidly melting mountain snowpacks, surface water flow from South Willow drainage or Box Elder drainage does not reach TEAD-N. The surface water from these drainages are either diverted for irrigation shortly before or after they leave the canyons or the waters infiltrate directly into the unconsolidated deposits near the mountain fronts.

2.5 CLIMATE

2.5.0.1. The climate of the Tooele valley is temperate and semi-arid and is characterized by limited precipitation, hot and dry summers, cool springs and falls, and moderately cold winters. The lowest temperatures typically occur in January (monthly mean of 28° F) and the highest temperatures occur in July (monthly mean of 75° F) (EA, 1988). The mean

winters. The lowest temperatures typically occur in January (monthly mean of 28° F) and the highest temperatures occur in July (monthly mean of 75° F) (EA, 1988). The mean annual air temperature at Tooele from 1941 to 1970 was 51 degrees Fahrenheit. The average growing season (frost-free days) is from April 1 to October 25.

2.5.0.2. Because of the location of the continental storm track, most of the precipitation in the Tooele Valley occurs as snow between the months of October and May. Summers are generally dry with occasional thundershowers. May is usually the wettest month, and June through July is the driest period. The greatest amount of precipitation occurs in the adjacent Oquirrh and Stansbury Mountains, where the average annual precipitation is more than 40 inches per year. The average annual precipitation at the City of Tooele for the period from 1897 to 1985 was 16.95 inches. At Grantsville, approximately two miles from TEAD-N, the average annual precipitation from 1957 to 1977 was 11 inches (Razem and Steiger, 1981). Gates (1965) estimated that the average annual precipitation that falls on the valley and the mountain precipitation contributed by tributaries to the valley is approximately 200,000 acre-ft.

2.5.0.3. Air circulation in the Salt Lake Basin, which includes the Tooele Valley, is typical of locations where a large body of water influences wind directions (EA, 1988). The predominant wind directions in the Tooele valley, south to north and north to south, are caused by diurnal temperature changes. As the surface temperature of the land increases during the day (compared to the temperature of the lake), the winds generally blow upslope, from north to south, into the valley and mountains. As the land cools (compared to the temperature of the lake) during the night, the wind direction reverses and moves downslope toward the lake, from south to north.

2.6 VEGETATION AND WILDLIFE

2.6.0.1. Because TEAD-N occupies a largely undeveloped area, and contains large areas of relatively undisturbed land, native plants and animals are present throughout the Depot. The following paragraphs provide background information on the plant and animal species that are found in the TEAD-N area and focus on threatened or endangered animal species that may be present at TEAD-N.

2.6.1. Vegetation

2.6.1.1. Climate and soil types are the most important factors determining which plant communities will be found at TEAD-N. In general, TEAD-N is undeveloped rangeland and can be classified as an Artemesia Biome. The dominant plant types in this biome are sagebrush (Artemesia) and saltbrush (Artiplex). Because the climate is relatively constant, this general classification can be subdivided into smaller groups based on vegetation and soil types. The plant types found at TEAD-N consist of native, introduced, and ornamental species. In this section, the major soil types found at TEAD-N (see Figure 2-4) will be used to discuss the occurrence of flora at TEAD-N; however, the occurrence of ornamental species will not be discussed. No endangered plant species have been identified at TEAD-N.

2.6.1.2. Abela Soils. The dominant plant species currently found in conjunction with Abela soils are mountain big sagebrush, rabbitbrush, snakeweed, yellowbrush, cheatgrass, and bluebunch wheatgrass. The potential plant community in this mapping unit is about 50 percent perennial grasses, 10 percent forbs, and 40 percent shrubs. Plant species considered important for human or wildlife use in this unit are bluebunch wheatgrass, bluegrass, mountain big sagebrush, and antelope bitterbrush (USSCS, 1991).

2.6.1.3. Hiko Peak Soils. The dominant plant species currently found most often in conjunction with the Hiko Peak soils are Wyoming big sagebrush, Douglas rabbitbrush, Indian ricegrass, and cheatgrass. The potential plant community is approximately 45 percent perennial grasses, 15 percent forbs, and 40 percent shrubs. Plant species considered important for human or wildlife use in this soil mapping unit are Wyoming big sagebrush, bluebunch wheatgrass, and Indian ricegrass (USSCS, 1991).

2.6.1.4. Medburn Soils. The dominant plant species currently found in conjunction with the Medburn soils are black greasewood, shadscale, bottlebrush, squirreltail, spiny horsebrush, and seepweed. The potential plant community for this soil mapping unit is approximately 30 percent perennial grasses, 15 percent forbs, and 55 percent shrubs. Plant species considered important for human or wildlife use are black greasewood, Wyoming big sagebrush, bottlebrush, squirreltail, and Indian ricegrass (USSCS, 1991).

2.6.1.5. Birdow Soils. The dominant plant species found to occur in conjunction with the Birdow soils are basin big sagebrush, bluebunch wheatgrass, rabbitbrush, and basin wildrye. The potential plant community for this soil mapping unit is about 70 percent perennial grasses, 10 percent forbs, and 20 percent shrubs. Plant species considered

important for human or wildlife use are basin wildrye, western wheatgrass, and basin big sagebrush (USSCS, 1991).

2.6.1.6. **Berent Soils.** The vegetation currently found in conjunction with the Berent soils is Utah juniper, Wyoming big sagebrush, needle-and-thread, and cheatgrass. The potential plant community on this soil mapping unit is an overstory of Utah juniper with about 30 percent cover. Understory vegetation is about 45 percent perennial grasses, 20 percent forbs, and 35 percent shrubs. Important plant species for human and wildlife use are needle-and-thread, Indian ricegrass, and fourwing saltbush (USSCS, 1991).

2.6.2. Wildlife

2.6.2.1. TEAD-N is inhabited by a variety of animals, including large and small mammals, insects, birds, amphibians, snakes, and lizards. Some of the more common residents include mule deer, black-tailed jack rabbits, desert cottontail rabbits, coyotes, burrowing owls, horned larks, meadowlarks, and western kingbirds. In addition, migrating waterfowl and raptors use flyways that cross TEAD-N. A complete listing of the animal species found in the TEAD-N area is included in the *Installation Environmental Assessment, Tooele Army Depot, North and South Area, Tooele, Utah Report* (ERTEC, 1982).

2.6.2.2. Currently, there are two endangered species, the bald eagle and the peregrine falcon, that may use the TEAD-N area. Bald eagles from northern latitudes hunt along streams and lakes throughout Utah and winter in Rush Valley, south of TEAD-N. Peregrine falcons have been reintroduced in the marshes along the Great Salt Lake and near Timpie Springs Wildlife Management Area in the northern end of the Stansbury Mountains. Both species may be visitors to the TEAD-N area. The ferruginous hawk, Swainson's hawk, and longbilled curlew, which are listed as federal and state candidate endangered species, use the TEAD-N area (Benton, 1991). No other threatened or endangered animal species have been identified in the TEAD-N area.

Section 3

MONTGOMERY WATSON

3.0 ENVIRONMENTAL INVESTIGATIONS AT TEAD-N

3.1 INTRODUCTION

3.1.0.1 This section presents summaries of the various environmental investigations which have been conducted at the TEAD-N facility. From 1979 to the present, a series of environmental investigations have been performed at TEAD-N, including the 1992 RFI which is the focus of this report. These investigations have been conducted by both government agencies and private contractors, and have varied widely in scope, ranging from general surveys of the area to remedial investigations (RIs) and preliminary risk assessments. Although many of the investigations discussed in this section were conducted prior to the designation of various sites as SWMUs, a parenthetical SWMU reference is added to the discussions for clarity, where applicable.

3.1.0.2. Section 3.0 concludes with an overview of the Phase I RFI activities conducted by JMM at TEAD-N. A more detailed description of these RFI activities is found in Volume II, Appendix A.

3.2 PREVIOUS INVESTIGATIONS AT TEAD-N

3.2.1. Installation Assessment - 1979

3.2.1.1. An initial investigation of both TEAD-N and TEAD-S was performed by USATHAMA during 1979 with the objective of assessing environmental quality at TEAD with regard to use, storage, treatment, and disposal of hazardous materials (USATHAMA, 1979). The assessment consisted of a review of existing records and interviews with past and present facility personnel. No environmental sampling activities were conducted.

3.2.1.2. The assessment concluded that a potential for contaminant migration exists at both TEAD-N and TEAD-S, and indicated that chemical agents, plating rinse waters, and explosives residues were major chemicals of concern.

3.2.2. Installation Environmental Assessment - 1982

3.2.2.1. This assessment was prepared by the Army and its contractor to provide a summary of TEAD activities and facilities thought to have a potential environmental impact (Inland Pacific Engineering Company, 1982). This report described TEAD activities,

facilities, and the surrounding environment, including an inventory of indigenous flora and fauna. Resources were examined in and around the TEAD facility, and the impact of facility closure on those resources was examined.

3.2.3. Investigation at the Open Burning/Open Detonation Area - 1982-85

3.2.3.1. The TEAD-N Open Burning/Open Detonation (OB/OD) Areas (SWMUs 1, 1a, 1b, 1c) were the subject of a four-phase investigation by the U.S. Army Environmental Hygiene Agency (AEHA) conducted from 1981 through 1984. This investigation evaluated the potential for environmental contamination at OB/OD areas at army depots nationwide, with the overall objective being to determine which areas should continue to be used for OB/OD operations.

3.2.3.2. Records reviews and limited sampling of potential source media were conducted. The following summarize the various phases of the investigation with respect to the OB/OD area at TEAD-N:

- Phase I of the investigation was an initial screening to determine which OB/OD facilities warranted sampling and analysis (AEHA, 1982). AEHA identified several areas where detonation, disposal, and burning activities had been previously conducted at the TEAD-N OB/OD Areas.

- Phase II consisted of sampling and analyzing surface and near-surface soils for Extraction Procedure Toxicity (EP Toxicity) of metals and selected explosives (AEHA, 1983). Four previously-used detonation pits at the Main Demolition Area were sampled, with six soil samples collected from the area of each pit (24 total). Analyses showed leachable concentrations of cadmium exceeded the RCRA limit of 1.0 mg/L in all four sampled pits. Detectable levels of several explosives were also found. Four surface soil samples from the Cluster Bomb Detonation Area (SWMU 1a) were collected, and minor concentrations of leachable metals and explosives were found, none above RCRA levels. A total of 14 samples were collected from seven locations at the Burn Pad (SWMU 1b), with no leachable analytes above RCRA EP Toxicity limits. In addition, one burn residue sample and two soil samples were collected and analyzed from the Trash Burn Pits (SWMU 1c). Arsenic, Barium, Mercury, and 2,4,6-TNT were detected.

- Phase III summarized and compared results from all OB/OD areas sampled during Phase II (AEHA, 1984).

- Phase IV consisted of additional sampling and analysis of soils at selected locations, including the Trash Burn Pits (SWMU 1c) (AEHA, 1985). Eight surface soil samples and 29 borehole samples, ranging from 5 to 20 feet below ground surface, were collected here during the Phase IV sampling. These soils were analyzed for silver, arsenic, barium, chromium, cadmium, lead, selenium, and mercury on a totals and EP Toxicity basis. Analysis for six explosive compounds was also conducted. All EP Toxicity results were below the detection limits, and explosives results did not exceed the guidelines of 1,000 mg/kg established by AEHA.

3.2.3.3. The AEHA investigations concluded the metals of concern are lead, cadmium, and barium, but that no remedial action was necessary. AEHA did recommend a hydrogeological evaluation to assess the public health risk of certain explosive compounds in groundwater. No OB/OD areas were closed as a result of this study.

3.2.4. Exploratory Environmental Contamination Survey - 1982

3.2.4.1. During 1981-82, the Earth Technology Corporation (ERTEC) conducted an environmental study to identify potential source areas for contamination at both the south and north areas of TEAD (ERTEC, 1982). The study was comprised of two phases: Phase I (1981) consisted of a data search and preliminary site visits to identify sites with the greatest potential for surface and subsurface contaminant migration, while Phase II (1982) involved soil, sediment, surface water, and groundwater sampling and analysis. Magnetics, gravity, seismic refraction, and resistivity geophysical techniques were used at TEAD-N to define subsurface features. Part of the program included ten wells and borings drilled at various locations around TEAD-N.

3.2.4.2. The Phase II investigation concluded that contamination and contamination migration at TEAD were generally minimal, but a plume of groundwater contamination was associated with the Industrial Waste Lagoon (SWMU 2), and possibly other maintenance area facilities. This plume was found to be migrating toward the TEAD-N north boundary, and was noted as a possible long-term source of contamination to the alluvial aquifer. The TNT Washout Ponds were also found to have contaminated groundwater in the regional aquifer with RDX, but the contaminant migration rate was reported to be slow.

Recommendations included expanding the groundwater monitoring program, with additional wells and soil borings near the sewage lagoons, and some additional soil sampling.

3.2.5. Analysis of Existing Facilities/Environmental Assessment Report - 1983

3.2.5.1. In early 1983, TEAD Facilities Engineering conducted a study to identify and summarize activities and /or missions associated with TEAD, and perform an environmental assessment of these activities. It described major activities, cultural elements, and environmental characteristics surrounding the TEAD facility.

3.2.5.2. No conclusions or recommendations for additional work were presented.

3.2.6. Monitoring Activity and Waste Disposal Review and Evaluation - 1985

3.2.6.1. The objective of this review, conducted by CH2M Hill, was to determine the adequacy of ERTEC's 1982 Phase I and II investigations, and determine if adequate information is available to support a feasibility study (FS). All available data were reviewed to determine the existence of data gaps.

3.2.6.2. CH2M Hill determined that data deficiencies did exist in the ERTEC Phase II report, and that geologic, chemical, and hydrologic conditions throughout TEAD must be evaluated. A semiannual sampling of all monitoring and water supply wells was recommended, as well as installation of two additional monitoring wells north of the TNT Washout Facility (SWMU 10).

3.2.7. Study of Environmental Balance - 1985

3.2.7.1. Published in March of 1985, this study was conducted by the U.S. Army and described the environmental management program at TEAD. It developed an ecological profile of the facility, as well as presenting goals for TEAD with respect to air, water, solid waste, radiation, and hazardous materials management.

3.2.7.2. The study concluded that further environmental controls were necessary at TEAD to prevent contamination releases.

3.2.8. Performance of Remedial Response Activities, Final Plan - 1985

3.2.8.1. In March of 1985, Camp, Dresser, and McKee (CDM) completed a review of Department of Defense documents, with the objective of making recommendations as to the completeness of the documents. Technical support and potential approaches to site remediation were discussed.

3.2.8.2. This study was developed as a guide to implementing alternative remedial actions at TEAD.

3.2.9. Analytical/Environmental Assessment Report - 1985

3.2.9.1. In November 1985, TEAD Facilities Engineering summarized the conclusions of previous environmental studies done at TEAD to assess the potential impacts of projected development at the facility. Site maps were reviewed, and existing land use studied to update the established Preservation Plan. Interviews were conducted with security, traffic control, and health services personnel.

3.2.9.2. Conclusions from this report stated that no proposed building or project at TEAD presented any long-term or irreversible negative impacts on the environment of the Tooele Valley.

3.2.10. Groundwater Quality Assessment, Tooele Army Depot - 1986

3.2.10.1. During the period of January 1985 to February 1986, Woodward-Clyde Consultants conducted a two-phase field program at TEAD-N, which focused on the groundwater contamination associated with the IWL (SWMU 2) and the connected unlined outfall ditches. The lagoon liquid, sludge, and soils surrounding the lagoons and ditches were sampled and analyzed during Phase I, as well as groundwater from existing monitoring and water supply wells. During the Phase II work, an eight-well detection monitoring system was installed, with wells placed upgradient and downgradient of the IWL and ditches. Hydraulic conductivity tests were performed on the eight new wells, as well as groundwater sampling activities. Nine pre-existing wells were also sampled.

3.2.10.2. The conclusions from this project are summarized as follows:

- Regional groundwater flow in the upper portion of the aquifer system is generally to the northwest, and there are two aquifers (alluvial and bedrock) which appeared to be hydraulically connected. Both aquifers were found to have high hydraulic conductivities.

- Leakage from the IWL and unlined ditches had altered local groundwater flow patterns, and created a groundwater mound.

- Groundwater in the vicinity of the IWL and ditches contained varying concentrations of volatile organic compounds (VOCs), in the range of 1 to 100 µg/L. The extent of the contamination, especially to the north and west, was not defined.

- Contaminated media identified included the industrial waste water and sludges in the IWL.

- Contaminants of concern included VOCs, SVOCs, and metals.

3.2.11. Engineering Report for Closure of the Industrial Wastewater Lagoon - 1986

3.2.11.1. In March of 1986, Montgomery completed an engineering report which assessed feasible alternatives for the closure of the IWL with respect to cost, effectiveness, and regulatory compliance. The necessary engineering analyses for closure were developed. This report provided a description of the distribution of source chemicals and discussed available treatment processes.

3.2.11.2. The report concluded that for source soils and sludges at the IWL: 1) removal and off-site disposal, or 2) removal to a new, on-site disposal facility were the most feasible remedial alternatives.

3.2.12. Industrial Wastewater Lagoon and Ditches-Groundwater Quality Assessment Report, Corrective Action Plan, and Record of Decision - 1986

3.2.12.1. This three-phase investigation was conducted by Montgomery, to define the extent and magnitude of the groundwater contamination associated with the Industrial Waste Lagoon (SWMU 2) and wastewater outfall ditches.

- Phase I characterized the geologic conditions and groundwater flow in the area utilizing 31 piezometers.
- Phase II determined the distribution of chemicals in the groundwater using 25 groundwater monitoring wells.
- Phase III included additional monitoring well installation and sampling, and evaluated potential remedial alternatives.

3.2.12.2. The report concluded that trichloroethylene was the predominant contaminant, and the highest concentrations were found beneath the wastewater ditches south of the industrial waste lagoon (IWL). A remedial strategy was developed utilizing extraction wells, an air stripper, and injection wells at the northern end of TEAD-N. The time needed for remediation was estimated to be 30 years. The need for additional monitoring wells to further characterize groundwater quality was noted.

3.2.13. EPIC Aerial Photography Report - 1986

3.2.13.1. Through an interagency agreement between the U.S. EPA and USATHAMA, the Environmental Photographic Interpretation Center (EPIC) provided imagery analysis support for a study of selected sites at both TEAD-N and TEAD-S. Archival black and white and color infrared photographs were obtained from existing imagery libraries of the U.S. Geological Survey (USGS), the EPA, and the Agricultural Stabilization and Conservation Service (ASCS). These photographs were used to identify possible areas of past use, storage, treatment, and disposal of hazardous materials.

3.2.13.2. Th^ focus of the report at TEAD-N was mainly the OB/OD Area (SWMU 1) (previously referred to as the "Demolition Range") and the TNT Washout Facility (SWMU

10). Eight photographs, ranging in age from 1952 to 1981, were provided of the areas presently occupied by SWMUs 1, 1a, 1b, 1c, and 1d.

3.2.13.3. The conclusions took the form of an enumeration of visible activities at the areas of interest over the covered period.

3.2.14. Interim RCRA Facility Assessment - 1987

3.2.14.1. A facility assessment was performed by NUS Corporation with the objective of evaluating releases of hazardous wastes and to identify corrective actions where necessary, under the Hazardous and Solid Waste Amendments (HSWA) of 1984. Existing information from U.S. EPA and State of Utah files was compiled and reviewed to verify characteristics of existing SWMUs and to identify additional SWMUs.

3.2.14.2. Continued and first-time sampling at several SWMUs at TEAD-N was recommended, including the IWL, the Pesticide/Herbicide Handling and Storage Building (SWMU 34), the Sewage Lagoons (SWMU 14), and the Sanitary Landfill (SWMU 15). Missing historical data were identified, and a radiological survey was recommended.

3.2.15. Groundwater Quality Assessment Engineering Report - 1988

3.2.15.1. Additional characterization of groundwater quality in the IWL area (SWMU 2) was provided by this May 1988 report by Montgomery. Twelve new monitoring wells were installed and sampling and analysis were continued at 19 existing wells for VOCs, selected metals, and major cations and anions.

3.2.15.2. Significant concentrations of several VOCs were detected in TEAD-N monitoring wells, including trichloroethylene, 1,1,1-trichloroethane, and carbon tetrachloride. Major cations and anions were found to increase in concentration with depth and distance along flow lines. An additional six monitoring wells were recommended by Montgomery to evaluate the distribution of contaminants in unmonitored zones, specifically from 250 to 450 feet below ground surface.

3.2.16. Preliminary Assessment/Site Investigation - 1988

3.2.16.1. Between September 1985 and November 1987, EA Engineering Science and Technology, Incorporated performed a data review and preliminary field sampling and analysis investigation at both TEAD-N and TEAD-S, with the objective of identifying

SWMUs at TEAD that presented a known or potential threat to public health or the environment (EA, 1988). The scope of the investigation involved a review of existing databases, including information provided by USATHAMA, for potential source information. A site inspection was carried out, including personnel interviews, and five monitoring wells and four lysimeters were installed. Existing monitoring wells were sampled, as well as surface soils and sediment for metals, explosives, VOCs, and SVOCs.

3.2.16.2. Explosives were detected in the soils and sediments at the TNT Washout Facility (SWMU 10), and recommendations were made to either discontinue or relocate the Laundry Facility, or install an impermeable liner beneath the Laundry Effluent Pond (SWMU 11). Additional monitoring wells at the TNT Washout Facility, Drum Storage Areas (SWMU 29), Chemical Range (SWMU 7), and X-Ray Lagoon (SWMU 3) were recommended, as well as soil borings at the TNT Washout Facility.

3.2.17. Remedial Investigation - 1989

3.2.17.1. This Remedial Investigation (RI) was conducted by Roy F. Weston for USATHAMA with the objective of summarizing and reviewing data from previous investigations and identifying and investigating data gaps for the TNT Washout Facility (SWMU 10), Chemical Range (SWMU 7), Old Burn Area (SWMU 6), Sanitary Landfill (SWMU 15), and Drum Storage Areas (SWMU 29) (Weston, 1990). An associated field program was performed consisting of 30 boreholes for soil characterization, 28 monitoring wells for groundwater evaluations, and a geophysical survey for old burial areas. Groundwater and soil samples were analyzed for metals, VOCs, SVOCs, explosives, and major cations/anions.

3.2.17.2. Low concentrations of explosives were found in shallow soils around the TNT Washout Facility (SWMU 10), and additional monitoring wells were recommended to characterize the perched groundwater zone present there. Benzene, 1,2-dichloroethane, and trichloroethylene were detected in groundwater at the Sanitary Landfill (SWMU 15). The Drum Storage Areas (SWMU 29) showed limited soil/groundwater contamination, and surface soil samples collected at the Chemical Range (SWMU 7) and Old Burn Area (SWMU 6) showed low concentrations of metals. It was noted that additional monitoring wells were also required to characterize the groundwater zone between the Sanitary Landfill and the Sewage Lagoons (SWMU 14). Continued sampling of existing wells was recommended.

3.2.18. Groundwater Quality Assessment for Tooele Army Depot; Tooele, Utah - 1991

3.2.18.1. The focus of this groundwater quality assessment was again the contamination associated with the IWL and wastewater ditches. The objective was to provide additional groundwater elevation and analytical data for corrective actions evaluations. Groundwater elevation measurements from 140 existing piezometers and monitoring wells were obtained, and groundwater samples were collected from 26 existing wells.

3.2.18.2. This assessment verified conditions at TEAD-N as similar to those reported in previous investigations. Groundwater flow was found to be in a north to northwest direction. The contaminants detected during this investigation and the position of the trichloroethylene plume were similar to results from the 1988 Montgomery and 1990 Weston reports.

3.2.19. Pre-Construction Soil Sampling at the DRMO Storage Yard and the Drum Storage Areas - 1992

3.2.19.1. Tetra Tech, Inc., under supervision of facilities personnel, conducted soil sampling activities at both the DRMO Storage Yard (SWMU 26) and the Drum Storage Areas (SWMU 29) as part of a pre-construction environmental assessment (EA), as required by the National Environmental Policy Act (NEPA). The following summarize the sampling activities and results:

- Tetra Tech personnel collected soil samples from five locations at the DRMO Storage Yard (SWMU 26) at depths ranging from 6 in. to 24 in. below ground surface, with two samples submitted from each location, for a total of 10 soil samples. The samples were in the vicinity of a proposed building location, and were submitted for analysis by the Toxic Characteristics Leaching Procedure (TCLP) method (EPA Method 1311). Seven of the samples contained detectable concentrations of cadmium in the leachate, and one slightly exceeded the RCRA regulatory limit of 1.0 mg/L for cadmium.

- Soil sampling at the Drum Storage Areas (SWMU 29) was conducted at 14 locations. Two soil samples were collected from each location for a total of 28 samples. All samples were submitted for analysis according to TCLP. These samples were collected in advance of construction of four new buildings and

repair of one existing structure. None of the samples showed parameters exceeding the RCRA regulatory limits.

3.3 PHASE I RFI INVESTIGATION AT TEAD-N - 1992

3.3.1. Introduction

3.3.1.1. During the summer of 1992, Montgomery conducted the field investigations for the Phase I RCRA Facilities Investigation (RFI) at TEAD-N. The objective of this investigation was to determine if hazardous wastes or hazardous constituents had been released from 20 SWMUs suspected of having done so. Table 3-1 contains a summary of the field program conducted in support of the Phase I RFI. The SWMU numbering system follows that established by the Corrective Action Permit for Tooele Army Depot-North Area. Figure 3-1 shows the locations of these SWMUs.

3.3.1.2. Three of the SWMUs on the suspected releases list were designated as needing no further action, as site activities, facility design, and current management practices indicated little potential for contaminant release. These include:

- Solvent Recovery Facility (SWMU 39). This facility is relatively new, equipped with adequate containment features, and follows proper work management practices. No spills of reportable quantities have occurred at this facility.

- Container Storage Areas For P999 and Mustard Agent-Filled Mortar Rounds (SWMU 43). This SWMU is composed of six igloos where M55 rocket components were stored, and 12 igloos in which mustard agent-filled mortar rounds were stored. The rocket components did not contain or contact chemical agents or warheads, and therefore no investigation of these igloos was conducted. In addition, a records review of available information revealed no indication of any leaks from the mustard agent-filled mortar rounds. For this reason, no additional investigation of these igloos was conducted.

- Tank Storage For Trichloroethylene (SWMU 44). This SWMU was located at the southern end of Building 620 in the Maintenance Area, where trichloroethylene was stored in a 500-gallon tank. Spent trichloroethylene from the tank was discharged into sewers that ultimately emptied into the IWL. Use of the tank ceased in 1984, and in 1991 it was turned over to the DRMO Yard for salvage.

TABLE 3-1

FIELD PROGRAM SUMMARY

SWMU Number	Site Name	Sampling Objective	Program Scope	Rationale
1 1a 1d	Main Demolition Area Cluster Bomb Detonation Area Propellant Burn Pans	Evaluate whether OB/OD activities have released metals, anions, PCDD/PCDF, VOCs, SVOCs, or explosives to the soils	• Identify OB/OD locations through field observations and aerial photo interpretation	Identify areas with potential for maximum contamination
			• Excavate 95 test pits to approximately five feet. Collect two soil samples per pit (190 total)	Collect soil samples from areas with potential for maximum contaminant concentrations and from other areas to define aerial extent
			• Drill and sample five soil borings to a depth of 100 feet. Collect seven samples per boring (35 total)	Collect soil samples from areas where potential for surface water infiltration may be driving contaminants toward the regional water table
1b 1c	Burn Pad Trash Burn Pits	Evaluate whether OB activities have released metals, anions, VOCs, SVOCs, PCDD/PCDF, or explosives to the soils	• Identify OB locations through field observations and aerial photo interpretation	Identify areas with potential for maximum contamination
			• Confirm OB locations through terrain conductivity and geomagnetic geophysical surveys	Verify OB locations
			• Excavate 26 test pits to depths of five to eight feet. Collect two samples per pit (52 total)	Collect soil samples from old burn/disposal pits to see if residue or debris is releasing contamination
			• Drill and sample three soil borings to a depth of 100 feet. Collect seven samples per boring (21 total)	
	Box Elder Wash	Determine if OB/OD activities have released metals, anions, or explosives to the surface soils in Box Elder Wash	• Collect eight surface soil samples from locations along Box Elder Wash where it enters the Depot, where it tends to pond as it passes through the OB/OD area, and at several other areas	Assess potential impacts the OB/OD activities may have on surface water

TABLE 3-1

FIELD PROGRAM SUMMARY
(CONTINUED)

SWMU Number	Site Name	Sampling Objective	Program Scope	Rationale
4	Sandblast Areas	Determine if sandblast media is a source of metals, VOCs, or SVOCs in the nearby soils and surface water pathways	• Collect six samples of nearby surface soils	Determine presence or absence of contaminants from sandblast media
14	Sewage Lagoons	Determine whether sewage lagoons are a source of VOCs, SVOCs, metals, anions, or TPHC in the underlying soils and groundwater	• Collect two samples of water and sediment from both lagoons. Collect two rounds of groundwater samples from five wells	Compare water quality in the lagoon with upgradient, crossgradient, and downgradient groundwater quality
19	AED Demilitarization Test Facility	Determine if this SWMU is a source of metals, anions, VOCs, SVOCs, or explosives in surface soils	• Collect 12 surface soil samples from around the buildings and test areas	Determine presence or absence of contaminants from tests at the facility
20	AED Deactivation Furnace Site	Determine if this SWMU has released metals, VOCs, SVOCs, or explosives to the surrounding surface soils	• Collect 16 surface soil samples from around the edges of the paved areas	Determine presence or absence of contaminants from demilitarization tests at the facility
21	Deactivation Furnace Building	Determine if the deactivation furnace has released metals, VOCs, SVOCs, PCDD/PCDF, TPHC, or explosives to the surrounding surface soils	• Collect 10 surface soil samples from around the edges of the paved areas	Determine presence or absence of contaminants from demilitarization activities at the facility
28	DRMO Storage Yard	Determine if salvage and storage activities have released metals, VOCs, or SVOCs to the surface and shallow subsurface soils	• Establish a sampling grid across the site	Use grid to provide areal coverage
			• Collect 45 surface soil samples from stained areas and from other randomly located sample locations in the sampling grid spaces	Examine surface soils in areas suspected of receiving contamination

TABLE 3-1

FIELD PROGRAM SUMMARY
(CONTINUED)

SWMU Number	Site Name	Sampling Objective	Program Scope	Rationale
			• Collect 15 soil samples from a depth of three feet from areas suspected of having subsurface contamination	Examine suspected contaminated subsurface soils
27	RCRA Container Storage Area	Determine if this SWMU has released metals, VOCs, or SVOCs to surface soils	• Collect seven surface soil samples	Determine if a release has occurred from this facility
28	90-Day Drum Storage Area	Determine if this SWMU has released metals, VOCs, SVOCs, or TPHC to surface soils.	• Collect eight surface soil samples	Determine presence or absence of contaminants from hazardous materials storage.
29	Drum Storage Areas	Determine if past drum storage practices have released metals, VOCs, SVOCs, pesticides, or TPHC to surface and shallow soils composing this SWMU area	• Establish a sampling grid in areas where drums were reportedly stored	Use grid to provide areal coverage
			• Randomly locate 27 borings to five feet in the sampling grid spaces	Examine surface and shallow soils for contaminants
			• Collect two soil samples per boring (54 total)	Examine surface and shallow soils for contaminants due to surface water transport/infiltration
			• Drill 10 borings to five feet in lowlying areas where surface water run-off may have ponded. Collect two samples per boring (20 total)	
34	Pesticide Handling and Storage Area	Determine if surface soils around this facility have received metals, pesticides, or herbicides contamination	• Collect six surface soil samples from beneath gravel around handling/batching areas and beneath drain pipes	Determine if pesticide handling and mixing has released contaminants to the nearby soils

TABLE 3-1

FIELD PROGRAM SUMMARY
(CONTINUED)

SWMU Number	Site Name	Sampling Objective	Program Scope	Rationale
37	Contaminated Waste Processor	Determine if metals, VOCs, SVOCs, explosives, or PCDD/PCDF have been released by this furnace	• Collect 12 surface soil samples from around the edges of the paved areas	Examine nearby soils for presence or absence of contaminants
38	Industrial Wastewater Treatment Plant	Determine if residual metals, VOCs, or SVOCs remain in surface soils which received windblown GAC	• Collect four surface soil samples from areas known to have received GAC	Examine soils for presence or absence of contaminants
			• Collect one sample of GAC from Storage Container	Examine GAC for types of contaminants
39	Solvent Recovery Facility	No sampling planned	NA	This SWMU has adequate protection against releases, and activities follow proper waste management practices
42	Bomb Washout Building	Determine if metals or explosives were released by burning and washout activities	• Drill 9 borings to five feet along washout water discharge areas • Collect two samples per borehole (18 total)	Determine presence or absence of contaminants in surface and shallow soils
			• Collect eight surface soil samples from around the building and wash water discharge ditch	Examine surface soils around building for indication of contaminants from airborn releases
			• Drill four borings to 5 ft around the site of the second furnace • Collect two samples per borehole (8 total)	Examine site of second furnace for presence or absence of contaminants
43	Container Storage for P999 and Mustard Agent-Filled Mortar Rounds	No sampling planned	NA	This SWMU never received any chemical agent-contaminated rocket components, and there are no indications of any leaks from the mortar rounds.

TABLE 3-1

FIELD PROGRAM SUMMARY
(CONTINUED)

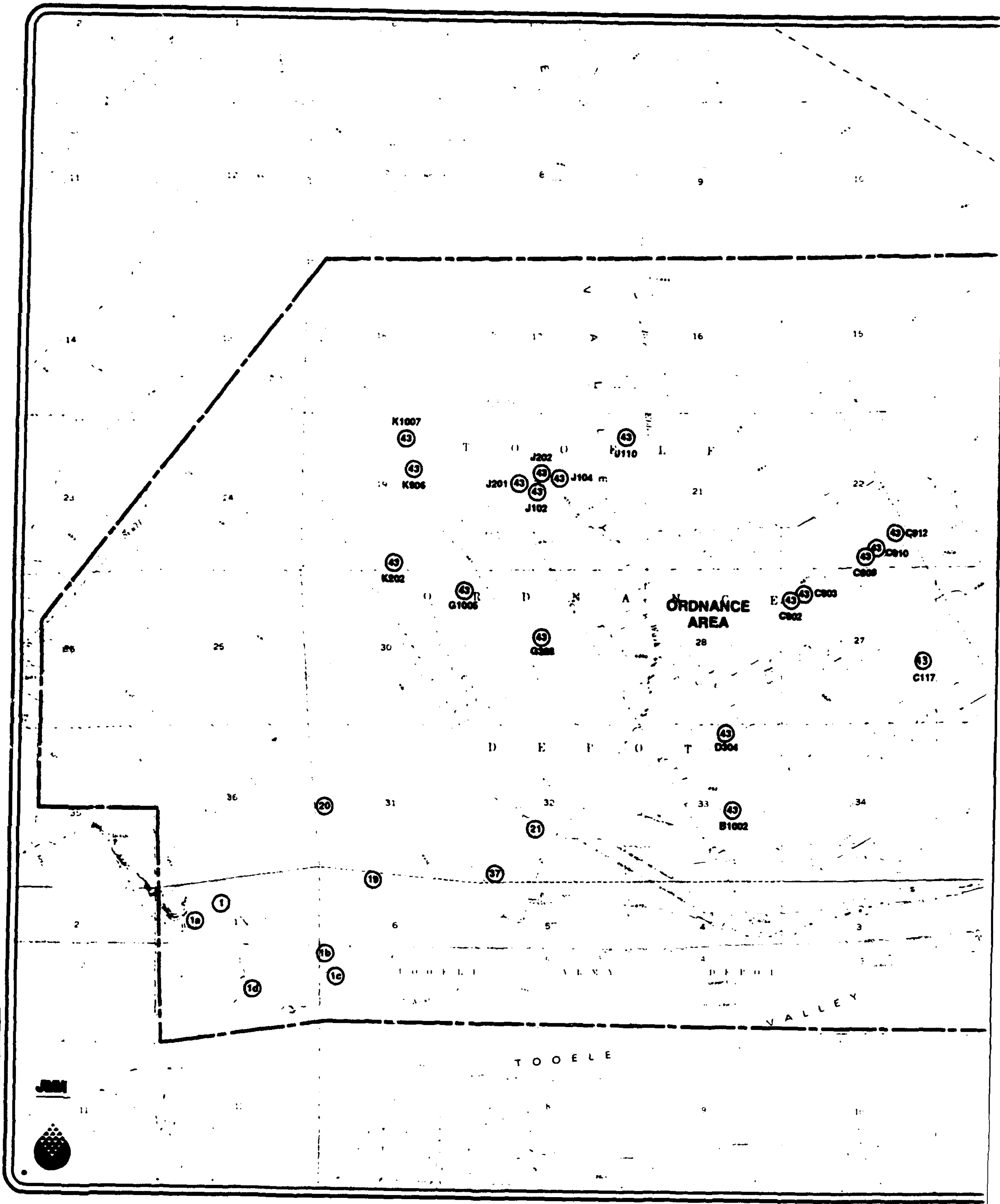
SWMU Number	Site Name	Sampling Objective	Program Scope	Rationale
44	Tank Storage for Trichloroethylene	*No sampling planned*	NA	TRCLE tank that contained F-listed wastes was cleaned, removed from the building, and turned in for salvage
45	Stormwater Discharge Area	Determine if surface water discharges are a source of metals, VOCs, SVOCs, explosives, and pesticides in this area	• Collect five surface water samples	Examine whether current discharges carry contaminants
			• Collect five sediment samples	Examine whether contaminants are present in the sediment
			• Drill one borehole to 25 feet and collect seven soil samples	Determine if infiltrating surface water is carrying contaminants toward regional water table
46	Used Oil Dumpsters	Determine if the dumpsters are a source of TPHC in shallow underlying soils	• Collect 36 soil samples from both surface soils and 1 foot bgs from area near used oil dumpsters and from surface water runoff locations	Examine if dumpsters have released contamination to nearby soils
47	Boiler Blowdown Water	Determine if discharges of boiler blowdown water are a source of metals, VOCs, or SVOCs or TPHC to soils	• Collect one sample of surface water and two sediment samples from discharge areas	Examine if boiler blowdown water is releasing contamination to underlying soils
NA	Groundwater Elevation Survey	Develop updated, comprehensive groundwater elevation maps	Measure groundwater levels in 53 wells and piezometers	Evaluate groundwater flow patterns for understanding contaminant transport
NA	Field Topographic Survey	Allow all sample locations to be easily assigned survey coordinates	Survey and mark known reference points at each SWMU	Enable direct measurement from sample locations to survey reference points

TABLE 3-1

FIELD PROGRAM SUMMARY
(CONTINUED)

SWMU Number	Site Name	Sampling Objective	Program Scope	Rationale
NA	Background Soil Sampling Program	Provide background data to determine the range of concentrations of naturally occurring compounds	Collect surface and shallow soil samples from 9 locations across TEAD-N also drill 1-100 foot deep boring for deeper background data	Develop upper concentration thresholds against which to compare SWMU-specific sampling results

AED Ammunition Equipment Directorate
DRMO Defense Reutilization and Marketing Office
GAC Granular Activated Carbon
NA Not Applicable
OB/OD Open Burning/Open Detonation
PCDD Pentachlorodibenzodioxin
PCDF Pentachlorodibenzofuran
RCRA Resource Conservation and Recovery Act
SVOC Semi-Volatile Organic Compounds
SWMU Solid Waste Management Unit
TPHC Total Petroleum Hydrocarbons
TRCLE Trichloroethylene
VOC Volatile Organic Compounds



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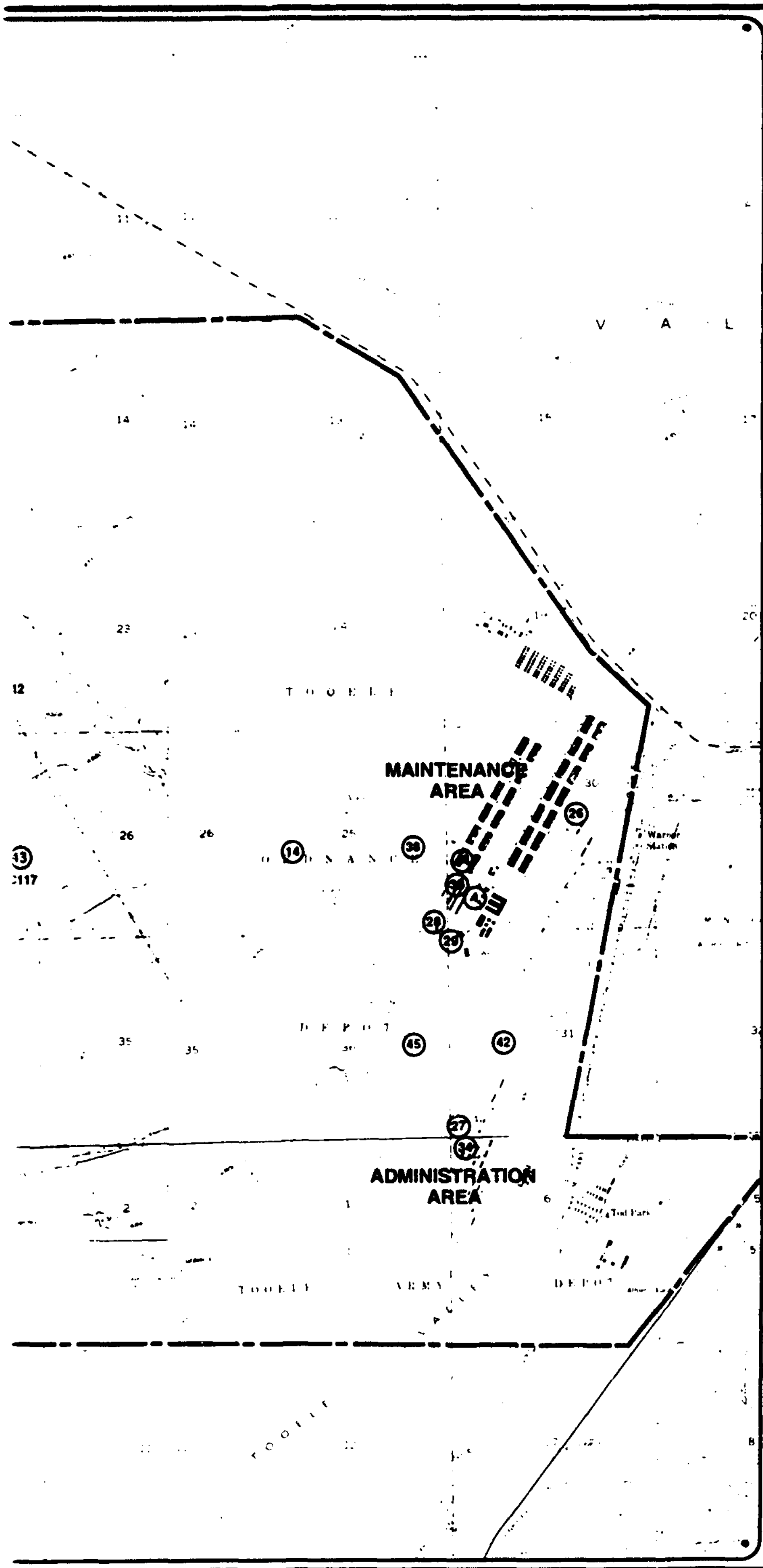


EXPLANATION

- 1 Open Burning/Open Detonation Areas
- 4 Sandblast Area
- 14 Sewage Lagoons
- 19 AED Demilitarization Test Facility
- 20 AED Deactivation Furnace Site
- 21 AED Deactivation Furnace Building
- 26 DRMO Storage Yard
- 27 RCRA Container Storage Yard
- 28 90-Day Drum Storage Area
- 29 Drum Storage Areas
- 34 Pesticide Handling and Storage Area
- 37 Contaminated Waste Processing Plant
- 38 Industrial Wastewater Treatment Plant
- 39 Solvent Recovery Facility
- 42 Bomb Washout Building
- 43 Container Storage for P999 (igloo numbers indicated)
- 44 Tank Storage for TCE
- 45 Stormwater Discharge Area
- 46 Used Oil Dumpsters
- 47 Boiler Blowdown Areas

Note: *The various locations of SWMUs 46 (Used Oil Dumpsters) and 47 (Boiler Blowdown Water areas) are not shown although they are present at several locations in the administration and maintenance areas.*

N

0 4000

Scale in Feet

TEAD N PHASE I RFI

SWMU LOCATION MAP

FIGURE 3-1

Because neither the tank nor any contamination from the tank remains at the site, no further action was required.

3.3.1.3. The remainder of this section contains an overview of the major RFI activities conducted at the remaining 17 suspected releases SWMUs. More detailed information on the Phase I RFI field activities is included in Appendix A. The supporting data from various investigative programs are included in other appendices. Results of the Phase I RFI are presented in Section 5.0 under the specific SWMU characterizations.

3.3.2. Scope of Investigation

3.3.2.1. A comprehensive description of the Phase I RFI field sampling program is included in the Data Collection Quality Assurance Plan (DCQAP) prepared for this project (JMM, 1992). Field investigations at the 17 suspected release SWMUs included sampling soil, sediment, surface water, and groundwater to investigate the presence or absence of contamination. Geophysical techniques, a groundwater elevation survey, and a topographical survey complemented the field sampling effort.

3.3.2.2. The following aspects of the field investigation are discussed in this section:

- Geophysical investigations at the OB/OD Area
- Test pit soil sampling, logging, and deep borehole sampling at the OB/OD Area
- Groundwater sampling from five monitoring wells near the Sewage Lagoons
- Surface water sampling from the Sewage Lagoons, the Stormwater Discharge Area, and the Boiler Blowdown Areas
- Collection of surface soil samples (0 to 1 feet bgs) from 14 SWMUs and nine background locations
- Collection of shallow (1 to 5 feet bgs) soil samples from five SWMUs and nine background locations
- Collection of deeper soil samples (greater than 5 feet bgs) from the Stormwater Discharge Area and one background soil boring

- Sediment sampling at the Sewage Lagoons, the Stormwater Discharge Area, and the Boiler Blowdown Areas

- Facility-wide topographical survey for sample locations

- Facility-wide groundwater elevation survey

- Investigation-derived waste handling.

3.3.3. RFI Investigation Activities

3.3.3.1. Geophysical Investigations ' OB/OD Area (SWMUs 1b and 1c). During the period of July 8 to July 15, 1992, Practical Geophysics of Salt Lake City, Utah conducted ground magnetic and soil conductivity investigations at the Burn Pad (SWMU 1b) and the Trash Burn Pits (SWMU 1c) in the OB/OD Area at TEAD-N. The objective of the investigations was to define the presence and location of buried debris in pits and trenches in these SWMUs.

3.3.3.2. Prior to the actual field measurements, a composite map of old burial features was compiled from six generations of aerial photographs, ranging in dates from 1952 to 1987. A total station surveying instrument was used to turn angles and measure distances from known reference points in the field to locate the images on the composite map.

3.3.3.3. Once the old excavation features were located, both a proton precession magnetometer and a soil conductivity system were used to confirm the locations of burial features. The geophysical subcontractor made numerous traverses at right angles to the long axis of the buried trench features utilizing both instruments. The length and spacing of the traverses were dependent on the size of the feature being investigated. The locations of the subsurface anomalies were staked and labeled for the later test pit siting. Through the use of these methods, a total of 50 burial features were defined by the geophysical investigations. The final report of the geophysical subcontractor (Practical Geophysics) is included with Appendix E of this report.

3.3.3.4. Test Pit and Deep Borehole Sampling and Logging at the OB/OD Area. One hundred twenty-one test pits were excavated, sampled, and logged at the five sub-SWMUs in this area to investigate surface and near-surface soils and burial pits in the

OB/OD Areas. In addition, eight boreholes were drilled, sampled, and logged to a depth of 100 feet bgs. The objective of the test pit and borehole program was to determine if historical OB/OD activities have released contaminants to the surrounding soils. All soil samples were submitted for metals, cyanide, explosives, and anions. In addition, selected soil samples were also analyzed for VOCs, SVOCs, dioxins/furans, and explosive reactivity.

3.3.3.5. Sampling locations were determined by historical photographs of the OB/OD Area dating back to 1952 showing the locations of prior demilitarization activities. Sampling locations within the respective excavation pits were determined by Montgomery field personnel based on the contents of each test pit. Two soil samples were collected from each excavation. If a buried burn and/or debris zone was uncovered, one sample was collected from it and another from directly under the zone, if possible, to provide an indication of possible contaminant migration. If no burn or debris layer was found, the samples were collected from the surface and at total depth. Seven soil samples were collected from each 100-foot borehole, based on the soil stratigraphy of the hole.

3.3.3.6. Test pits were excavated using a rubber tired backhoe, and ranged from 4 to 12 feet in depth. The 100-foot boreholes were drilled with a percussion drill rig. The test pit and borehole logs are included with this report as Appendix B. The distribution of the test pits and the boreholes was as follows:

- Main Demolition Area (SWMU 1) - 82 test pits and three deep boreholes
- Cluster Bomb Area (SWMU 1a) - six test pits and one deep borehole
- Burn Pad (SWMU 1b) - six test pits and one deep borehole
- Trash Burn Pits (SWMU 1c) - 20 test pits and two deep boreholes
- Propellant Burn Pans (SWMU 1d) - seven test pits and one deep borehole.

3.3.3.7. Groundwater Sampling at the Sewage Lagoons (SWMU 14). Two rounds of groundwater samples were collected from five monitoring wells in the vicinity of the Sewage Lagoons and submitted for VOC, SVOC, filtered metals, selected anions, and TRPH analyses. Field sampling logs are included as part of Appendix D. Monitoring wells sampled were N-135-90, N-134-90, N-136-90, B-1, and A-3, which were chosen to provide upgradient, downgradient, and crossgradient groundwater quality information with respect

to the Sewage Lagoons. The first sampling round was conducted in July, 1992, and the second round was conducted approximately seven months later, in February, 1993.

3.3.3.8. Surface Water Sampling at the Sewage Lagoons, Stormwater Discharge Area, and Boiler Blowdown Water Discharge Areas (SWMUs 14, 45, and 47). At each SWMU where surface water was present, the field investigation program included surface water sampling. The following paragraphs summarize the surface water sampling activities during the Phase I RFI at TEAD-N:

- Sewage Lagoons (SWMU 14). Two surface water samples from the active lagoon (Lagoon 1) were collected from locations at opposite ends of the lagoon. Access to sample locations was made possible by use of a small row boat. The samples were submitted for VOCs, SVOCs, metals, and selected anions analyses to determine if contaminants are present in the surface water in the lagoon.

- Stormwater Discharge Area (SWMU 45). Three surface water samples were collected from the ponded water in this SWMU and submitted for VOC, SVOC, metals, and explosives analyses. These samples were collected to confirm the presence of various VOC contaminants, and determine if other types of contaminants are present.

- Boiler Blowdown Water Discharge Areas (SWMU 47). To determine if boiler blowdown water is a source of contamination of nearby soils or water, one surface water sample was obtained from an exterior sump at Building 610 which collected boiler blowdown effluent, and one surface water sample was collected from a discharge area west of Building 691. These samples were analyzed for VOCs, SVOCs, filtered metals and TRPH.

3.3.3.9. Surface Soil Sampling. To evaluate the presence or absence of surface soil contamination, surface soil samples were collected at SWMUs 4, 19, 20, 21, 26, 27, 28, 29, 34, 37, 38, 42, 45, and 46. These samples were collected as either a grab sample or a composite sample, depending on whether a judgmental or random rationale was used. At SWMUs 26, 29, 42, and 46 the surface soil samples were collected at the 0 to 1-foot interval from shallow soil borings. At SWMU 45, one surface soil sample was collected from the 0-1 foot interval in the 25-foot soil boring. Soil boring logs are included in Appendix B.

3.3.3.10. Shallow Soil Sampling. To determine if soil contamination is present in the shallow subsurface, shallow soil was sampled (1 to 5 feet bgs) at SWMUs 26, 29, 42, 45, and 46. At all locations except SWMU 46 the samples were collected by hollow-stem auger drilling and sampling methods. At SWMU 46, the shallow soil samples were excavated with a stainless steel shovel and collected with a stainless steel sampling trowel.

3.3.3.11. Deeper Soil Sampling at the OB/OD Areas (SWMUs 1-1d) and the Stormwater Discharge Area (SWMU 45). Nine 100-foot deep soil borings were drilled at various locations at the OB/OD Area using a percussion-type dual-wall reverse circulation air rotary drilling rig to explore the possibility of contamination at depth. One of these borings was drilled at a location distant from known contaminant sources associated with the OB/OD Area, and served as a source of background information for the subsurface soils there. A total of seven soil samples from various depths were collected from each boring, all samples were analyzed for explosives and metals and selected samples were analyzed for VOCs and SVOCs.

3.3.3.12. Deeper soil samples were also collected from the Stormwater Discharge Area (SWMU 45) by means of a hollow-stem auger drill rig. To detect the presence of contaminants migrating downward from the ponded water at SWMU 45, seven soil samples were collected from the 25-foot soil boring and analyzed for VOCs, SVOCs, metals, and explosives.

3.3.3.13. Sediment Sampling at the Sewage Lagoons, Stormwater Discharge Area, and Boiler Blowdown Areas (SWMUs 14, 45, and 47). Sediment samples were taken in conjunction with surface water samples to help define if contaminants are present in the sediments. Two samples of bottom sludge from the Sewage Lagoons (SWMU 14) were obtained and submitted for VOC, SVOC, metals, and anions analysis, and five samples of sediment from the ponded water at the Stormwater Discharge Area (SWMU 45) were submitted for VOCs, SVOCs, metals, anions, and pesticides. In addition, two sediment samples from the blowdown sump at Building 610 and from a discharge area west of Building 691 were collected and analyzed for VOCs, SVOCs, total metals, and TRPH.

3.3.3.14. Spent Granular Activated Carbon Sampling at the Industrial Wastewater Treatment Plant (SWMU 38). To evaluate the nature of chemicals present in spent granular activated carbon (GAC) stored at the Industrial Wastewater Treatment Plant, a single sample of this material was collected during the Phase I RFI field program.

Since the spent GAC was known to have absorbed various types of potentially hazardous chemicals, level C personal protective equipment was required.

3.3.3.15. Facility-Wide Topographic Survey. Prior to the field sampling activities, a topographic survey was conducted to establish reference locations at the various sampling sites. Once these reference points were established, the actual sample locations were tied to the Utah State Plane Coordinate System at the time of sample collection with a Brunton compass.

3.3.3.16. In addition, all boreholes 25 feet deep or deeper were surveyed by CRS Engineering, Inc. using more rigorous surveying equipment and techniques. This included the nine 100-foot borings at the OB/OD Areas (SWMUs 1-1d) and the 25-foot borehole at the Stormwater Discharge Area (SWMU 45).

3.3.3.17. Facility-Wide Groundwater Elevation Survey. One task of the Phase I RFI field work was a facility-wide groundwater elevation survey. Montgomery personnel measured the depth to water in 48 selected wells and piezometers across the TEAD-N facility during two rounds of measurements. The first of the two scheduled rounds of groundwater elevation measurements was made during early June 1993, around the time of the seasonal groundwater maximum (June-July). The second round of measurements was conducted in January 1993, when seasonal groundwater levels are at their seasonal minimum (December-January).

3.3.3.18. Groundwater elevations were measured with an electronic water level indicator, and measured to the nearest 0.01 foot from the top of the inside well casing. The results of the groundwater elevation surveys are presented on the groundwater elevation contour map included in Section 2.0 (Figure 2-5).

3.3.3.19. Background Soil Sampling. To provide a measure of the concentrations of naturally-occurring metals and anions in soils, surface and subsurface soils were sampled at 10 uncontaminated locations across TEAD-N. Background soil sample locations and a discussion of the sampling results are included in section 4.0 of this report. Surface soil samples were collected from the 0 to 1-foot interval and shallow soil samples from 3 to 5 feet bgs. In addition, one 100-foot soil boring was drilled and sampled in the OB/OD Area to characterize the deeper soils there. Except for the deep boring, all soil samples were collected with a decontaminated stainless steel hand auger. Five of the shallow background

locations were sampled by Montgomery personnel, and four locations were sampled by Rust E&I (formerly SEC Donahue) personnel.

3.3.3.20. Investigation-Derived Waste Handling. Proper handling of investigation-derived wastes (IDWs) was described in the DCQAP (JMM, 1992). Investigation-derived wastes included soils from test pits and soil borings, water from monitoring well purging, and rinsate from equipment decontamination. Soil removed during the process of excavating the test pits was placed adjacent to the test pit in a spoil pile by the backhoe. Following examination for munition metal parts, the test pit spoil pile was replaced as backfill in the test pit from which it was excavated.

3.3.3.21. Soil brought to the surface as cuttings or excess samples during drilling operations was screened with either a PID or FID organic vapor detector. Soil from the cuttings and soil samplers remained at the site if the soils were not saturated, no visible contamination was seen, and no elevated levels of organic vapors were detected. In this case, soils from the shallow borings was used to backfill boreholes from which they originated. In the deeper borings, excess soil was spread out over the ground surface, as these boreholes were backfilled using a bentonite-cement grout. Except for the 25-foot boring at the Stormwater Discharge Area (SWMU 45), no saturated soils, or visible or detectable contamination was encountered during the drilling operations. Because the soils from the boring at SWMU 45 were saturated, they were drummed and stored in the 90-day drum storage area pending the results of laboratory analysis. Since elevated levels of metals were detected (see section 5.0) in the associated soil samples, soils in the drum were again sampled and analyzed for toxicity characteristics according to the Toxicity Characteristics Leaching Procedure (TCLP). Because the results of this analysis indicated that the soils did not exhibit the characteristics of a toxic hazardous waste, the drum was turned over to TEAD for disposal as a non-hazardous waste.

3.3.3.22. Purge water and water from decontamination activities generated while sampling five monitoring wells in conjunction with the sewage lagoons investigation was placed into a 500-gallon holding tank provided by the drilling subcontractor. After a review of the types and concentrations of contaminants in the water, a permit was obtained allowing discharge into the Industrial Wastewater Treatment Plant system.

3.3.3.23. The decontamination process, which used high-pressure steam-cleaning equipment, generated significant quantities of rinsate. In all cases, the rinsate was

captured and containerized in 55-gallon drums which were discharged to the Industrial Wastewater Treatment Plant system.

Section 4

MONTGOMERY WATSON

4.0 BACKGROUND SOIL CONDITIONS AND DATA REPORTING LIMIT EVALUATION

4.0.0.1. This section contains discussions regarding the concentrations of metals and anions detected in background soil samples. The metals and anions concentrations in background soil samples represent natural conditions and will be compared with the results of soil sample analyses at individual SWMUs where these compounds are suspected contaminants. In addition to evaluations of background conditions, a discussion is included of the differences between USAEC certified reporting limits (CRLs) and practical quantitation limits (PQLs), as recommended by USEPA SW 846.

4.1. BACKGROUND SOIL CONDITIONS

4.1.1. Soil Sampling Programs

4.1.1.1. Surface and shallow background soil data were collected by both Montgomery and SEC Donohue personnel during two separate field investigation programs in 1992. Between the two studies, background soil sampling locations were sited across TEAD-N to represent each of the major soil types present on the Depot. Background samples were collected at locations that were unaffected by the physical operations at the SWMU sites, but near enough to obtain similar soil types. To evaluate shallow soils (soils less than 10 feet deep), samples were collected from surface and 2 to 3-foot depths at each of nine locations (see Figure 2-4) and were submitted for analyses of total metals, selected anions, and pH. In addition, one 100-foot deep boring was drilled near the OB/OD area, and soil samples were collected and analyzed to assess the composition of the deep soils (soil from depths 10 feet deep and deeper) at this location. This deep boring was located in an undisturbed portion of the OB/OD area approximately 4,000 feet southwest of the Main Demolition Area (SWMU 1) and about 2,500 feet southwest of the Propellant Burn Pans (SWMU 1d) (see Figure 5.2.1.). Seven soil samples were collected from depths of 10, 15, 30, 45, 60, 70, and 100 feet. As with other background soil samples, all seven were analyzed for metals, anions, and pH.

4.1.2. Analysis of Background Soils Data

4.1.2.1. Representative concentrations of naturally-occurring metals and anions were needed to compare with SWMU-specific analytical results. Tables 4-1 and 4-2 present summaries of the analytical results of background samples for shallow and deep soils,

.ABLE 4-1

TOOELE AD-NORTH AREA: SHALLOW BACKGROUND SAMPLES (< 10 FT.) USED FOR STATISTICAL ANALYSES
SOIL ANALYTICAL RESULTS FOR METALS

Sample ID	BKB-92-01	BKB-92-02	BKB-92-03	BKB-92-04	SB-BK-001	SB-BK-001	SB-BK-002	SB-BK-002
Lab ID	11701	11703	11705	11707	OIL1*775	OIL1*776	OIL1*777	OIL1*778
Date Sampled	07/15/92	07/15/92	07/15/92	07/15/92	07/26/92	07/26/92	07/26/92	07/26/92
Depth (ft)	3.000 ft	2.000 ft	3.000 ft	3.000 ft	0.000 ft	3.000 ft	0.000 ft	2.000 ft
Metals and Cyanide (ug/g)								
Aluminum	NA	NA	NA	NA	9510.0000	2280.0000	8910.0000	2590.0000
Antimony	< 34.0000	< 34.0000	< 3.4200	< 34.0000	< 7.1400	< 7.1400	< 7.1400	< 7.1400
Arsenic	< 240.0000	< 48.0000	< 240.0000	< 240.0000	4.0400	3.2200	6.0500	5.7600
Barium	270.0000	100.0000	46.0000	99.0000	92.6000	36.7000	86.0000	38.7000
Beryllium	< 0.2300	< 0.0780	< 0.0780	< 0.0780	1.2100	0.6330	1.2000	< 0.5000
Cadmium	< 1.3000	< 0.4240	< 0.4240	< 0.4240	< 0.7000	< 0.7000	0.8140	< 0.7000
Calcium	NA	NA	NA	NA	2580.0000	9060.0000	3160.0000	18900.0000
Chromium	19.0000	13.5000	5.1800	9.3300	10.4000	< 4.0500	11.9000	6.8500
Cobalt	NA	NA	NA	NA	3.9800	2.0800	4.0700	2.1500
Copper	13.0000	10.7000	< 1.9500	5.7700	9.3400	3.3600	17.8000	6.5100
Cyanide	< 5.0000	< 5.0000	< 5.0000	< 5.0000	< 0.9200	< 0.9200	< 0.9200	< 0.9200
Iron	26000.0000	11000.0000	3400.0000	11000.0000	10200.0000	4450.0000	10200.0000	4790.0000
Lead	22.0000	0.7860	6.0000	7.7000	8.5000	4.3600	32.5000	5.7400
Magnesium	NA	NA	NA	NA	3760.0000	1330.0000	4070.0000	2160.0000
Manganese	NA	NA	NA	NA	273.0000	85.1000	232.0000	84.8000
Mercury	< 0.0259	< 0.0259	< 0.0259	< 0.0259	< 0.0500	< 0.0500	< 0.0500	< 0.0500
Nickel	< 7.5000	< 2.4600	< 2.4600	< 2.4600	9.7300	4.3500	9.2600	5.1400
Potassium	NA	NA	NA	NA	2720.0000	541.0000	3070.0000	781.0000
Selenium	< 5100.0000	< 510.0000	< 510.0000	< 510.0000	< 0.2500	< 0.2500	< 0.2500	< 0.2500
Silver	0.0788	0.0658	0.0242	0.0421	< 0.5890	< 0.5890	0.6340	< 0.5890
Sodium	NA	NA	NA	NA	225.0000	193.0000	243.0000	189.0000
Thallium	< 170.0000	< 170.0000	< 170.0000	< 170.0000	< 6.6200	< 6.6200	< 6.6200	< 6.6200
Vanadium	NA	NA	NA	NA	15.1000	8.4800	15.9000	9.4000
Zinc	70.0000	40.0000	< 7.9600	26.9000	39.6000	13.8000	54.1000	18.0000

Notes: < = Not detected at the value shown, NA = Not analyzed

TABLE 4-1 (CONTINUED)

TOOELE AD-NORTH AREA: SHALLOW BACKGROUND SAMPLES (< 10 FT.) USED FOR STATISTICAL ANALYSES
SOIL ANALYTICAL RESULTS FOR METALS

Sample ID	SB-BK-003	SB-BK-003	SB-BK-004	SB-BK-004	SB-BK-005	SB-BK-005	BKS-92-01	BKS-92-02
Lab ID	OIL1*779	OIL1*780	OIL1*781	OIL1*782	OIL1*783	OIL1*784	11700	11702
Date Sampled	07/26/92	07/26/92	07/27/92	07/27/92	07/27/92	07/27/92	07/15/92	07/15/92
Depth (ft)	0.000 ft	2.000 ft	0.000 ft	3.000 ft	0.000 ft	3.000 ft	0.000 ft	0.000 ft
Metals and Cyanide (ug/g)								
Aluminum	13200.0000	12100.0000	17100.0000	10500.0000	6550.0000	4460.0000	NA	NA
Antimony	< 7.1400	< 7.1400	< 7.1400	< 7.1400	< 7.1400	< 7.1400	< 34.0000	< 34.0000
Arsenic	24.0000	19.0000	6.5500	6.8600	19.0000	16.0000	< 120.0000	< 120.0000
Barium	188.0000	157.0000	169.0000	147.0000	92.2000	64.9000	190.0000	190.0000
Beryllium	1.3500	1.2600	1.5300	1.2900	0.6380	0.8380	< 0.0780	< 0.0780
Cadmium	0.8470	< 0.7000	< 0.7000	< 0.7000	< 0.7000	< 0.7000	< 0.4240	< 0.4240
Calcium	38200.0000	34600.0000	47100.0000	28000.0000	36800.0000	69000.0000	NA	NA
Chromium	15.6000	14.4000	19.5000	15.2000	9.8700	10.3000	12.6000	16.5000
Cobalt	5.3900	4.0600	6.8700	5.6600	2.5700	2.6700	NA	NA
Copper	23.1000	15.9000	15.0000	11.3000	10.4000	4.8300	12.7000	29.0000
Cyanide	< 0.9200	NA	NA	< 0.9200	< 0.9200	< 0.9200	< 5.0000	< 5.0000
Iron	12900.0000	10900.0000	16300.0000	13300.0000	7040.0000	6770.0000	20000.0000	17000.0000
Lead	55.5000	32.7000	12.0000	10.9000	30.5000	10.7000	17.0000	62.0000
Magnesium	10100.0000	7800.0000	11400.0000	6950.0000	5620.0000	9990.0000	NA	NA
Manganese	458.0000	370.0000	477.0000	376.0000	195.0000	140.0000	NA	NA
Mercury	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	0.0374	< 0.0259
Nickel	13.1000	11.2000	17.9000	14.2000	7.1900	8.1400	< 2.4600	< 2.4600
Potassium	4570.0000	3830.0000	5670.0000	2320.0000	2300.0000	1620.0000	NA	NA
Selenium	< 0.2500	< 0.2500	< 0.2500	< 0.2500	< 0.2500	< 0.2500	NA	< 510.0000
Silver	0.6600	< 0.5890	< 0.5890	< 0.5890	< 0.5890	< 0.5890	0.2120	0.1210
Sodium	343.0000	323.0000	463.0000	1790.0000	272.0000	683.0000	NA	NA
Thallium	9.6000	< 6.6200	< 6.6200	< 6.6200	< 6.6200	< 6.6200	< 83.0000	< 83.0000
Vanadium	20.5000	19.4000	27.7000	23.8000	13.1000	23.1000	NA	NA
Zinc	107.0000	76.2000	65.1000	53.8000	59.4000	26.9000	85.0000	84.0000

Notes: < = Not detected at the value shown, NA = Not analyzed

TABLE 4-1 (CONTINUED)

TOOELE AD NORTH AREA: SHALLOW BACKGROUND SAMPLES (< 10 FT.) USED FOR STATISTICAL ANALYSES
SOIL ANALYTICAL RESULTS FOR METALS

Sample ID	BKS-92-03	BKS-92-04
Lab ID	11704	11706
Date Sampled	07/15/92	07/15/92
Depth (ft)	0.000 ft	0.000 ft
Metals and Cyanide (ug/g)		
Aluminum	NA	NA
Antimony	< 34.0000	< 34.0000
Arsenic	63.2000	< 72.0000
Barium	49.0000	160.0000
Beryllium	< 0.0780	< 0.0780
Cadmium	< 0.4240	< 0.4240
Calcium	NA	NA
Chromium	6.0600	13.2000
Cobalt	NA	NA
Copper	14.4000	11.9000
Cyanide	< 5.0000	< 5.0000
Iron	7500.0000	16000.0000
Lead	NA	16.0000
Magnesium	NA	NA
Manganese	NA	NA
Mercury	< 0.0259	< 0.0259
Nickel	< 2.4600	< 2.4600
Potassium	NA	NA
Selenium	< 510.0000	< 510.0000
Silver	0.6600	0.0687
Sodium	NA	NA
Thallium	< 170.0000	< 170.0000
Vanadium	NA	NA
Zinc	NA	54.0000

Notes: < = Not detected at the value shown, NA = Not analyzed

TABLE 4-1 (CONTINUED)

TOOELE AD-NORTH AREA: SHALLOW BACKGROUND SAMPLES (< 10 FT.) USED FOR STATISTICAL ANALYSES
SOIL ANALYTICAL RESULTS FOR GENERAL CHEMICALS

Sample ID	BKB-92-01	BKB-92-02	BKB-92-03	BKB-92-04	SB-BK-001	SB-BK-001	SB-BK-002	SB BK-002
Lab ID	11701	11703	11705	11707	OIL1*775	OIL1*776	OIL1*777	OIL1*778
Date Sampled	07/15/92	07/15/92	07/15/92	07/15/92	07/26/92	07/26/92	07/26/92	07/26/92
Depth (ft)	3.000 ft	2.000 ft	3.000 ft	3.000 ft	0.000 ft	3.000 ft	0.000 ft	2.000 ft
Anions (ug/g)								
Bromide	< 8.8300	< 8.8300	< 8.8300	< 8.8300	NA	NA	NA	NA
Chloride	136.0000	< 39.6000	< 39.6000	< 39.6000	< 6.0500	< 6.0500	< 6.0500	< 6.0500
Fluoride	< 19.2000	< 19.2000	< 19.2000	< 19.2000	NA	NA	NA	NA
Nitrate	< 3.3600	< 3.3600	< 3.3600	< 3.3600	NA	NA	NA	NA
Nitrite	< 3.1600	< 3.1600	< 3.1600	< 3.1600	NA	NA	NA	NA
Nitrite, nitrate - nonspecified	NA	NA	NA	NA	0.9990	< 0.6000	1.3400	< 0.6000
Phosphate	< 5.0000	< 5.0000	< 5.0000	< 5.0000	NA	NA	NA	NA
Sulfate	466.0000	< 14.4000	< 14.4000	< 14.4000	< 90.4000	< 90.4000	< 90.4000	< 90.4000
Total phosphates	NA	NA	NA	NA	400.0000	270.0000	190.0000	230.0000
General Inorganic Parameters								
pH	NA	NA	NA	NA	8.5600	8.0600	6.0800	6.7500

Notes: < = Not detected at the value shown, NA = Not analyzed

TABLE 4-1 (CONTINUED)

TOOELE AD-NORTH AREA: SHALLOW BACKGROUND SAMPLES (< 10 FT.) USED FOR STATISTICAL ANALYSES
SOIL ANALYTICAL RESULTS FOR GENERAL CHEMICALS

Sample ID	SB-BK-003	SB-BK-003	SB-BK-004	SB-BK-004	SB-BK-005	SB-BK-005	BKS-92-01	BKS-92-02
Lab ID	01L1*779	01L1*780	01L1*781	01L1*782	01L1*783	01L1*784	11700	11702
Date Sampled	07/26/92	07/26/92	07/27/92	07/27/92	07/27/92	07/27/92	07/15/92	07/15/92
Depth (ft)	0.000 ft	2.000 ft	0.000 ft	3.000 ft	0.000 ft	3.000 ft	0.000 ft	0.000 ft
Anions (ug/g)								
Bromide	NA	NA	NA	NA	NA	NA	< 8.8300	< 8.8300
Chloride	< 6.0500	< 6.0500	< 6.0500	240.0000	< 6.0500	8.4500	< 39.6000	< 39.6000
Fluoride	NA	NA	NA	NA	NA	NA	< 19.2000	< 19.2000
Nitrate	NA	NA	NA	NA	NA	NA	9.4500	< 3.3600
Nitrite	NA	NA	NA	NA	NA	NA	< 3.1600	< 3.1600
Nitrite, nitrate - nonspecified	2.0800	2.1500	0.9240	0.6970	1.4800	< 0.6000	NA	NA
Phosphate	NA	NA	NA	NA	NA	NA	< 5.0000	< 5.0000
Sulfate	< 90.4000	< 90.4000	< 90.4000	< 90.4000	< 90.4000	< 90.4000	< 14.4000	< 14.4000
Total phosphates	410.0000	150.0000	260.0000	350.0000	130.0000	260.0000	NA	NA
General Inorganic Parameters								
pH	7.7500	5.9100	8.5400	9.1100	8.7200	9.7600	NA	NA

Notes: < = Not detected at the value shown, NA = Not analyzed

TABLE 4-1 (CONTINUED)

TOOELE AD-NORTH AREA: SHALLOW BACKGROUND SAMPLES (< 10 FT.) USED FOR STATISTICAL ANALYSES
SOIL ANALYTICAL RESULTS FOR GENERAL CHEMICALS

Sample ID	BKS-92-03	BKS-92-04
Lab ID	11704	11706
Date Sampled	07/15/92	07/15/92
Depth (ft)	0.000 ft	0.000 ft
Anions (ug/g)		
Bromide	< 8.8300	< 8.8300
Chloride	< 39.6000	< 39.6000
Fluoride	< 19.2000	< 19.2000
Nitrate	< 3.3600	5.9900
Nitrite	< 3.1600	< 3.1600
Nitrite, nitrate - nonspecified	NA	NA
Phosphate	< 5.0000	< 5.0000
Sulfate	< 14.4000	< 14.4000
Total phosphates	NA	NA
General Inorganic Parameters		
pH	NA	NA

Notes: < = Not detected at the value shown, NA = Not analyzed

TABLE 4-2

TOOELE AD-NORTH AREA: DEEP BACKGROUND SAMPLES (>= 10 FT.) USED FOR STATISTICAL ANALYSES
SOIL ANALYTICAL RESULTS FOR METALS

Sample ID	SB-BK-006	SB-BK-006	SB-BK-006	SB-BK-006	SB-BK-006	SB-BK-006	SB-BK-006
Lab ID	01L1*785	01L1*786	01L1*787	01L1*788	01L1*789	01L1*790	01L1*791
Date Sampled	07/22/92	07/22/92	07/22/92	07/22/92	07/22/92	07/22/92	07/22/92
Depth (ft)	10.000 ft	15.000 ft	30.000 ft	45.000 ft	60.000 ft	70.000 ft	100.000 ft
Metals and Cyanide (ug/g)							
Aluminum	3310.0000	11300.0000	19000.0000	4360.0000	19200.0000	15800.0000	6190.0000
Antimony	15.0000	< 7.1400	< 7.1400	10.0000	< 7.1400	< 7.1400	9.9500
Arsenic	6.5000	5.5000	5.1400	3.4800	5.1000	4.8900	7.7200
Barium	45.3000	82.6000	152.0000	441.0000	132.0000	192.0000	34.1000
Beryllium	< 0.5000	0.8600	1.3200	0.7440	1.5400	1.4400	0.7180
Cadmium	< 0.7000	< 0.7000	< 0.7000	< 0.7000	< 0.7000	< 0.7000	< 0.7000
Calcium	170000.0000	41000.0000	7120.0000	160000.0000	5580.0000	43700.0000	140000.0000
Chromium	7.5500	13.3000	18.7000	7.7500	16.8000	24.3000	11.6000
Cobalt	2.3600	6.6400	7.7500	2.2900	8.4400	6.0800	2.4800
Copper	5.6000	9.3100	13.3000	6.9200	16.1000	11.9000	6.3000
Cyanide	< 0.9200	< 0.9200	< 0.9200	< 0.9200	< 0.9200	< 0.9200	2.6000
Iron	5580.0000	11700.0000	18400.0000	6520.0000	18900.0000	18200.0000	7550.0000
Lead	6.0500	11.2000	13.0000	4.9600	15.0000	12.0000	6.2400
Magnesium	35600.0000	6430.0000	8350.0000	12800.0000	7430.0000	6800.0000	16800.0000
Manganese	449.0000	398.0000	569.0000	304.0000	606.0000	455.0000	196.0000
Mercury	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500
Nickel	11.8000	12.5000	16.9000	9.8700	18.4000	15.5000	11.6000
Potassium	801.0000	2530.0000	4690.0000	977.0000	4480.0000	3820.0000	1330.0000
Selenium	< 0.2500	< 0.2500	< 0.2500	< 0.2500	< 0.2500	< 0.2500	< 0.2500
Silver	< 0.5890	< 0.5890	0.8180	< 0.5890	< 0.5890	< 0.5890	< 0.5890
Sodium	830.0000	1740.0000	1240.0000	431.0000	779.0000	644.0000	361.0000
Thallium	11.7000	< 6.6200	< 6.6200	10.3000	< 6.6200	< 6.6200	10.9000
Vanadium	15.9000	25.3000	29.5000	13.8000	30.0000	25.8000	15.9000
Zinc	23.3000	49.6000	68.2000	38.7000	74.4000	58.1000	37.3000

Notes: < = Not detected at the value shown, NA = Not analyzed

TABLE 4-2 (CONTINUED)

TOOELE AD-NORTH AREA: DEEP BACKGROUND SAMPLES (>= 10 FT.) USED FOR STATISTICAL ANALYSES
SOIL ANALYTICAL RESULTS FOR GENERAL CHEMICALS

Sample ID	SB-BK-006	SB-BK-006	SB-BK-006	SB-BK-006	SB-BK-006	SB-BK-006	SB-BK-006
Lab ID	OIL1*785	OIL1*786	OIL1*787	OIL1*788	OIL1*789	OIL1*790	OIL1*791
Date Sampled	07/22/92	07/22/92	07/22/92	07/22/92	07/22/92	07/22/92	07/22/92
Depth (ft)	10.000 ft	15.000 ft	30.000 ft	45.000 ft	60.000 ft	70.000 ft	100.000 ft
Anions (ug/g)							
Chloride	470.0000	1500.0000	49.8000	22.3000	33.5000	34.1000	28.1000
Nitrite, nitrate - nonspecified	1.0700	7.3400	3.9400	0.8570	1.7100	1.5100	1.1800
Sulfate	295.0000	790.0000	< 90.4000	< 90.4000	< 90.4000	< 90.4000	< 90.4000
Total phosphates	360.0000	210.0000	340.0000	190.0000	130.0000	270.0000	150.0000
General Inorganic Parameters							
pH	8.7000	6.2900	9.0400	9.0700	8.6200	8.4600	9.1900

Notes: < = Not detected at the value shown, NA = Not analyzed

respectively. To determine if elevated concentrations of metals or anions are present at a particular SWMU, it was necessary to establish a range of naturally-occurring concentrations of these compounds. For this, statistical methods were used to calculate the mean, standard deviation, 95 percent confidence intervals, and other summary statistics for each metal and anion population. The results of these statistical analyses are presented in Tables 4-3 and 4-4 for depths less than 10 feet and depths of 10 feet or greater, respectively. In cases where analytical results were below the USAEC CRLs, a value equal to one-half the CRL was substituted. In reviewing these data, it must be recognized that the concentrations of a large percentage of the analytes (for example, cyanide, mercury, selenium, thallium) were below the CRLs, and therefore the reported means represent some limiting concentration value rather than representing an actual abundance of the constituent.

4.1.3. Data Evaluations

4.1.3.1. In order to retain statistical validity, the data sets generated for each analyte were first reviewed for any obviously anomalous values, and then checked for normal distributions. The lead concentration of 160 μg/g (ppm) for the surface sample at location BK-92-03 was excluded from the data set for this calculation based on the observation that the sampled location is in, or near, a former firing range and ammunition test range. Because this one value appeared to be anomalous, and it skewed the statistical results, it was excluded from the population of lead concentrations. Data sets containing four or more values were checked for normal distribution according to the coefficient of variation test (USEPA, 1989a). As shown in Tables 4-3 and 4-4, only the shallow soil data set for arsenic and the deep soil data set for chloride exhibited non-normal distributions according to this test.

4.1.3.2. To evaluate whether the analytical results from single soil samples may indicate contamination, several measures of an upper bounds of the distribution of soil constituents were calculated and are also included in Tables 4-3 and 4-4. The values for the 95% upper confidence limit and the 95%/95% upper tolerance limits (USEPA, 1989a) are listed, along with the arithmetic means plus two and three standard deviations. These limits generally describe a range of upper limit values above which concentrations may be considered to be elevated above the site-wide "background level." While such elevated values may indicate an anthropogenic contribution, these levels also may be due to location-specific levels (as may be present in depositional environments) or an inevitable outlier. Such occurrences then can be evaluated in the context of sources or risk and remediation data needs.

TABLE 4-3

SUMMARY STATISTICS FOR SURFACE AND SHALLOW BACKGROUND SOILS[(a)]

Compound	Total Number Samples	Number of Detections	Percent Detections	Mean	Standard Deviation	Normal Distribution[(b)]	Geometric Mean	Maximum Concentration Detected	Upper 95% Confidence Interval	Upper Second Standard Deviation	Upper Third Standard Deviation	Upper 95% Confidence Interval
Silver	18	10	55.6	0.274	0.197	Y	0.194	0.660	0.371	0.667	0.8642	0.7742
Aluminum	10	10	100.0	8,760	4,572	Y	7,309	17,100	12,030	17,904	22475.7034	22068.8042
Arsenic	18	11	61.1	39.6	40.6	N	21.5	63.2	59.9	121	161.5301	142.9535
Barium	18	18	100.0	121	64.0	Y	103	270	153	249	312.7678	283.5391
Beryllium	18	9	50.0	0.588	0.562	Y	0.239	1.53	0.868	1.71	2.2747	2.0178
Calcium	10	10	100.0	28,740	19,925	Y	19,015	69,000	42,993	68,590	88515.4015	86742.0647
Cadmium	18	2	11.1	0.366	0.195	NC	0.328	0.847	0.463	0.755	0.9498	0.8609
Chloride	18	3	16.7	30.4	58.9	NC	10.5	240	59.7	148	206.9629	180.0669
Cobalt	10	10	100.0	3.95	1.54	Y	3.65	6.87	5.05	7.04	8.5812	8.4438
Chromium	18	17	94.4	11.7	4.61	Y	10.5	19.5	14.0	21.0	25.5707	23.4647
Copper	18	17	94.4	12.0	6.69	Y	9.68	29.0	15.3	25.4	32.0703	29.0128
Cyanide	16	0	0.0	1.48	1.02	NC	1.07	0.460	2.02	3.52	4.5400	4.0535
Iron	18	18	100.0	11,597	5,696	Y	10,191	26,000	14,430	22,988	28683.9270	26081.0523
Mercury	18	1	5.6	0.021	0.007	NC	0.020	0.037	0.025	0.035	0.0420	0.0388
Potassium	10	10	100.0	2,742	1,534	Y	2,229	5,670	3,839	5,810	7343.9334	7207.4153
Magnesium	10	10	100.0	6,318	3,324	Y	5,233	11,400	8,695	12,965	16288.7815	15992.9817
Manganese	10	10	100.0	269	139	Y	228	477	368	546	684.6585	672.3300
Sodium	10	10	100.0	472	462	Y	357	1,790	803	1,396	1857.5902	1816.4962
Nickel	18	10	55.6	6.25	5.18	Y	4.00	17.9	8.83	16.6	21.8017	19.4333
Nitrates	10	7	70.0	1.06	0.661	Y	0.829	2.15	1.53	2.38	3.0402	2.9813
Lead	17	17	100.0	19.7	17.2	Y	12.9	62.0	28.5	54.0	136.1220	119.5743
Antimony	18	0	0.0	8.69	6.64	NC	6.29	1.71	12.0	22.0	28.6175	25.5818
Selenium	17	0	0.0	240	590	NC	3.30	0.125	543	1,420	2009.3481	1706.2124
Sulfate	18	1	5.6	53.8	102	NC	25.2	466	104	257	358.6355	312.1989
Thallium	18	1	5.6	35.1	37.1	NC	13.7	9.60	53.6	109	146.4154	129.4634
Total phosphate	10	10	100.0	265	92.1	Y	248	410	331	449	541.3422	533.1440
Vanadium	10	10	100.0	17.6	6.02	Y	16.5	27.7	22.0	29.7	35.7012	35.1656
Zinc	17	16	94.1	51.6	27.4	Y	41.2	107	65.7	106	133.8322	119.7489

All values in µg/g unless otherwise stated.

(a) Surface and shallow soils are samples less than 10 feet deep.
(b) Y indicates data set is normally distributed, N indicated it is not normal.

NC Not calculated

TABLE 4-4

SUMMARY STATISTICS FOR DEEP BACKGROUND SOILS[a]

Compound	Total Number Samples	Number of Detections	Percent Detections	Mean	Standard Deviation	Normal Distribution[b]	Geometric Mean	Maximum Concentration Detected	Lower 95% Confidence Interval	Upper Second Standard Deviation	Upper Third Standard Deviation	Upper 95% Confidence Interval
Silver	7	1	14.3	0.369	0.183	NC	0.341	0.818	0.200	0.736	0.919	0.992
Aluminum	7	7	100.0	11,309	6,325	Y	9,255	19,200	5,458	23,959	30284	32808
Arsenic	7	7	100	5.48	1.23	Y	5.34	7.72	4.33	7.94	9.18	9.67
Barium	7	7	100.0	154	129	Y	112	441	35.3	411	540	591
Beryllium	7	6	85.7	0.982	0.433	Y	0.856	1.54	0.5812	1.85	2.28	2.45
Calcium	7	7	100.0	81,057	67,380	Y	42,983	170,000	18,739	215,818	283197	310082
Cadmium	7	0	0.0	0.350	0.000	NC	0.350	0.350	0.350	0.350	0.350	0.350
Chloride	7	7	100.0	306	510	N	82.8	1,500	<166	1,326	1836	2040
Cobalt	7	7	100.0	5.15	2.50	Y	4.47	8.44	2.64	10.1	12.6	13.6
Chromium	7	7	100.0	14.3	5.64	Y	13.2	24.3	9.07	25.6	31.2	33.4
Copper	7	7	100.0	9.92	3.68	Y	9.25	16.1	6.52	17.3	21.0	22.4
Cyanide	7	1	14.3	0.766	0.749	NC	0.589	2.60	0.073	2.26	3.01	3.31
Iron	7	7	100.0	12,407	5,568	Y	11,068	18,900	7,258	23,542	29110	31331
Mercury	7	0	0.0	0.025	0.000	NC	0.025	0.025	0.025	0.025	0.025	0.025
Potassium	7	7	100.0	2,661	1,552	Y	2,149	4,690	1,226	5,764	7316	7935
Magnesium	7	7	100.0	13,459	9,696	Y	11,100	35,600	4,491	32,850	42545	46413
Manganese	7	7	100.0	425	132	Y	401	606	303	690	823	875
Sodium	7	7	100.0	861	448	Y	755	1,740	446	1,757	2205	2384
Nickel	7	7	100.0	13.8	2.92	Y	13.5	18.4	11.1	19.6	22.6	23.7
Nitrates	7	7	100.0	2.52	2.19	Y	1.87	7.34	0.489	6.90	9.09	9.96
Lead	7	7	100.0	9.78	3.67	Y	9.03	15.0	6.39	17.1	20.8	22.2
Antimony	7	3	42.9	7.03	4.29	NC	5.88	15.0	3.07	15.6	20.0	21.6
Selenium	7	0	0.0	0.125	0.000	NC	0.125	0.125	0.125	0.125	0.125	0.125
Sulfate	7	2	28.6	187	261	NC	88.9	790	<53.8	709	969	1073
Thallium	7	3	42.9	6.59	3.81	NC	5.53	11.7	3.07	14.2	18	19
Total phosphate	7	7	100.0	236	83.5	Y	221	360	159	403	486	519
Vanadium	7	7	100.0	22.3	6.40	Y	21.3	30.0	16.4	35.1	41.5	44.1
Zinc	7	7	100.0	49.9	16.9	Y	46.8	74.4	34.3	83.7	101	107

All values in µg/g unless otherwise stated.

(a) Deep soils are those 10 feet deep or deeper.
(b) Y indicates data set is normally distributed, N indicates it is not normal.

NC Not calculated

4.1.4. Determination of Upper Thresholds

4.1.4.1. Upper thresholds are the concentrations of metals and anions that are believed to represent the upper range of naturally-occurring values. Analytical results above the upper thresholds are considered to be indicative of a release of contaminants to the environment.

4.1.4.2. Three criteria were used to determine the upper threshold of background concentrations. First, if the sample population for each analyte contained four or more data points above the USAEC CRLs, it was considered to be statistically valid. In this case, the upper threshold was set at two standard deviations from the mean concentration. Tables 4-3 and 4-4 indicate that this statistic provides the most conservative measure of the upper bounds of the distribution of soil constituents. In the case where the analyte sample population contained less than four but greater than zero detections, the upper threshold was set at the maximum concentration that was detected. Finally, in the case where there were zero detections in the analyte sample population, the upper threshold was set at the CRL, and any detection in environmental samples would be considered above background. Table 4-5 summarizes these results.

4.1.4.3. To meet the Phase I RFI objectives, the facility-wide background sampling enables a screening-level evaluation of metals and anion contamination. However, because upper thresholds were determined for the entire TEAD-N facility, they may not reflect SWMU-specific background conditions, which will need to be established prior to any corrective measures studies. To better define the SWMU-specific conditions, additional background sampling is recommended at several of the SWMUs (see Section 6.0). As these data become available they will be added to the statistical base for determining the background threshold values. Future investigations will use all the available background data to interpret naturally-occurring concentrations of soil constituents.

4.1.5. Discussion of Results

4.1.5.1. Based on the types of activities at TEAD-N, releases of lead to the environment appears to be a major concern. The following discussion addresses the specific issue of background lead concentrations. The database shows the other values for lead may be apparently elevated compared to the calculated means. Further evaluation of expected sources indicates that surface soil samples SB-BK-002, SB-BK-005, and SB-BK-003 (with lead concentrations of 32, 30, and 55 ppm, respectively) are from locations intermittently

TABLE 4-5

BACKGROUND SOIL UPPER THRESHOLDS

Compound	Surface and Shallow Soils[a]	Deep Soils[b]
Silver	0.667	0.818[c]
Aluminum	17900	24000
Arsenic	121	7.94
Barium	249	411
Beryllium	1.71	1.85
Calcium	68600	216000
Cadmium	0.847[c]	0.700[d]
Chloride	240[c]	1330
Cobalt	7.04	10.1
Chromium	21.0	25.6
Copper	25.4	17.3
Cyanide	0.920[d]	2.60[c]
Iron	230	23500
Mercury	0.0374[c]	0.050[d]
Potassium	5810	5760
Magnesium	13000	32800
Manganese	546	690
Sodium	140	1760
Nickel	16.6	19.6
Nitrate	2.38	6.90
Lead	54.0	17.1
Antimony	7.14[d]	15.0[c]
Selenium	0.250[d]	0.250[d]
Sulfate	466[c]	790[c]
Thallium	9.60[c]	11.7[c]
Total Phosphate	449	402
Vanadium	29.6	35.1
Zinc	106	83.7

All values in μg/g

(a) Surface and shallow soils are those less than 10 feet deep
(b) Deep soils are those 10 feet or deeper

All upper thresholds set at 2 standard deviations from mean concentrations except:

(c) Upper threshold set at maximum value detected in background samples due to low frequency of detections.

(d) Upper threshold set at CRL due to no detections.

downwind from SWMUs 21, 15, and 42, respectively. Each of these SWMUs are possible sources of airborne lead releases from furnaces or incinerators. Downwind deposition of lead from such sources may slightly increase the measured lead concentrations in soils in these locations. Additionally, the lead concentration from the surface soil sample from location BK-92-02 (at 62 ppm) is considered anomalous for unknown reasons, and the 32 ppm concentration in the two-foot samples from location SB-BK-003 is suspect because of the 55 ppm concentration of lead in the surface sample and the proximity of the location to the furnace. Deleting these values from the lead data set gives an arithmetic mean value of 11.6 ppm compared to a value of 19.7 in Table 4-3. The difference between the values is not considered significant, but may be reevaluated if more data become available or if the difference is important in a risk or remediation context.

4.1.5.2. It also should be noted that the arsenic data in Table 4-3 may overestimate the background levels of this element that is often of concern at sites. The overestimate of means and upper limits is due to the use of default values of one-half of the CRL, which are in the range of 240 to 48 ppm for some samples. These concentrations are more than a factor of ten greater than those measured in other samples using lower detection limits. These data also may be reevaluated if the arsenic levels are a concern in the context of risk or remediation evaluations.

4.2 DATA REPORTING LIMIT EVALUATION

4.2.1. Background

4.2.1.1. The Corrective Action Permit for the Phase I RFI specifies USEPA SW-846 (USEPA, 1986) practical quantitation limits (PQLs) for reporting analytical data results. Since the USATHAMA certified reporting levels (CRLs) are not always consistent with the PQLs, this section has been prepared to discuss the differences and their effects on the analytical data evaluations.

4.2.2. Analytes Affected

4.2.2.1. In soil samples, numerous analytical results of nine metals (mercury, selenium, silver, beryllium, cadmium, cobalt, chromium, antimony, and thallium) and cyanide, plus two analytical results for vanadium and zinc and one result for copper, potassium, sodium, and nickel fell between the CRLs and PQLs. In addition, several analytical results for five pesticides fell between the CRLs and PQLs. For water samples, several analytical results

for 16 metals and phosphorous fell into this category. Where the SW 846 PQLs are lower than the USATHAMA CRLs, the analytical results were downloaded from the analytical laboratories and presented in Appendix K.

4.2.3. Impacts to the Analytical Program

4.2.3.1. Soils. With the exception of the low levels of five pesticides detected in soil samples, incorporation of the data that fall between the CRLs and PQLs would impact the determination of background concentrations of metals, cyanide, and phosphorus. The background data set for these analytes could be affected where values at or below the CRL are used in determining the upper threshold of background concentrations. Tables 4-3 and 4-4 show that sample populations for cadmium, cyanide, mercury, antimony, and selenium have incorporated the CRLs to determine an upper background threshold. However, in view of the objective of the Phase I RFI (i.e., to determine if hazardous waste or constituents have been released), incorporation of CRL data into the determination of upper thresholds for these metals and anions will not affect the conclusions of this study. Because pesticides detected in soil samples probably indicate a release of contaminants, several samples from both the Drum Storage Area (SWMU 29) and the Stormwater Discharge Area (SWMU 45) show elevated levels of pesticides. However, because the same pesticides were detected in other samples above the CRLs, the addition of these data have no impact on the results of the analytical program for soils.

4.2.3.2. Water. The impacts of the differences between the CRLs and PQLs on water sample data are similar to those of the soils. However, because only limited water sampling was included in the program, similar to the soils results, the different data sets will have no effect on the results of this study (i.e., to determine if a release has occurred).

4.2.3.3. Although the Phase I RFI results are not affected by the different reporting limits, the use of these data for evaluating health risks during Phase II will be affected. Where concentrations of contaminants between the CRLs and PQLs may trigger a health effect, the PQL data will be substituted.

Section 5

5.0 CONTAMINATION CHARACTERIZATION

5.1 INTRODUCTION

5.1.0.1. This section contains the results of the Phase I investigations conducted by Montgomery at each of the 20 SWMUs included in this program. The discussions presented focus on the objective of the Phase I RFI, which is to determine if, at each SWMU, a release of hazardous wastes or constituents has occurred. Each SWMU is discussed individually in terms of the following: Site Description and Waste Generation, Site Conditions, Previous Investigations and Phase I RFI Sampling and Results and Contamination Assessment. Where possible, the contamination assessment includes a comparison of the sampling analytical results with health risk based criteria and action levels as recommended in the RFI Guidance (USEPA, 1989) and/or in the proposed Subpart S Amendments to RCRA (USEPA, 1990). Each SWMU-specific discussion culminates with a recommendation for either no further action or a Phase II investigation. Specific recommendations for Phase II activities are included in Section 6.0 of this document.

5.1.0.2. Most of the analytical data collected during this Phase I RFI (i.e., results for soil, sediment, surface water, and groundwater sampling) are presented in SWMU-specific figures that accompany the SWMU-specific text sections. The analytical results are also included in a series of tables located at the end of this section. Table numbers are the same as the first order headings for each SWMU in the text sections. In addition, the last two or three digits in the sample identification numbers in the data tables correspond to the sample numbers shown in the corresponding figures.

5.1.0.3. The tables include all positive detections for organic compounds and all metals and ion concentrations that exceed upper background thresholds (see Section 4.0 for discussion of background thresholds). Data included in the tables at the end of this section are generally the same as those presented in the figures with some exceptions due to data evaluation. The figures present only those data that are considered valid after the data evaluation process (see Appendix C), and do not include compounds qualified as laboratory contaminants, which include phthalates, Freon, toluene, and hexane. Other data not presented include those that are considered suspect due to method blank contamination. Data which is considered estimated (i.e., due to holding time violations, etc.) is noted on the analytical figures by an asterisk. The IRDMIS chemical abbreviations which appear on the figures can be referenced to the list of chemical acronyms which follows the Table of Contents.

5.2 OB/OD AREAS - MAIN DEMOLITION AREA (SWMU 1)

5.2.1. Description of the OB/OD Area

5.2.1.1. The Open Burning/Open Detonation (OB/OD) Area is located in the southwestern corner of the TEAD-N facility. Figure 3-1 shows the location of the OB/OD Area with respect to the rest of the facility. For the purposes of this investigation, the OB/OD Area was divided into five separate subunits based on previous site activities. These subunits are as follows:

- The Main Demolition Area - SWMU 1
- The Cluster Bomb Area - SWMU 1a
- The Burn Pad - SWMU 1b
- The Trash Burn Pits - SWMU 1c
- The Propellant Burn Pans - SWMU 1d

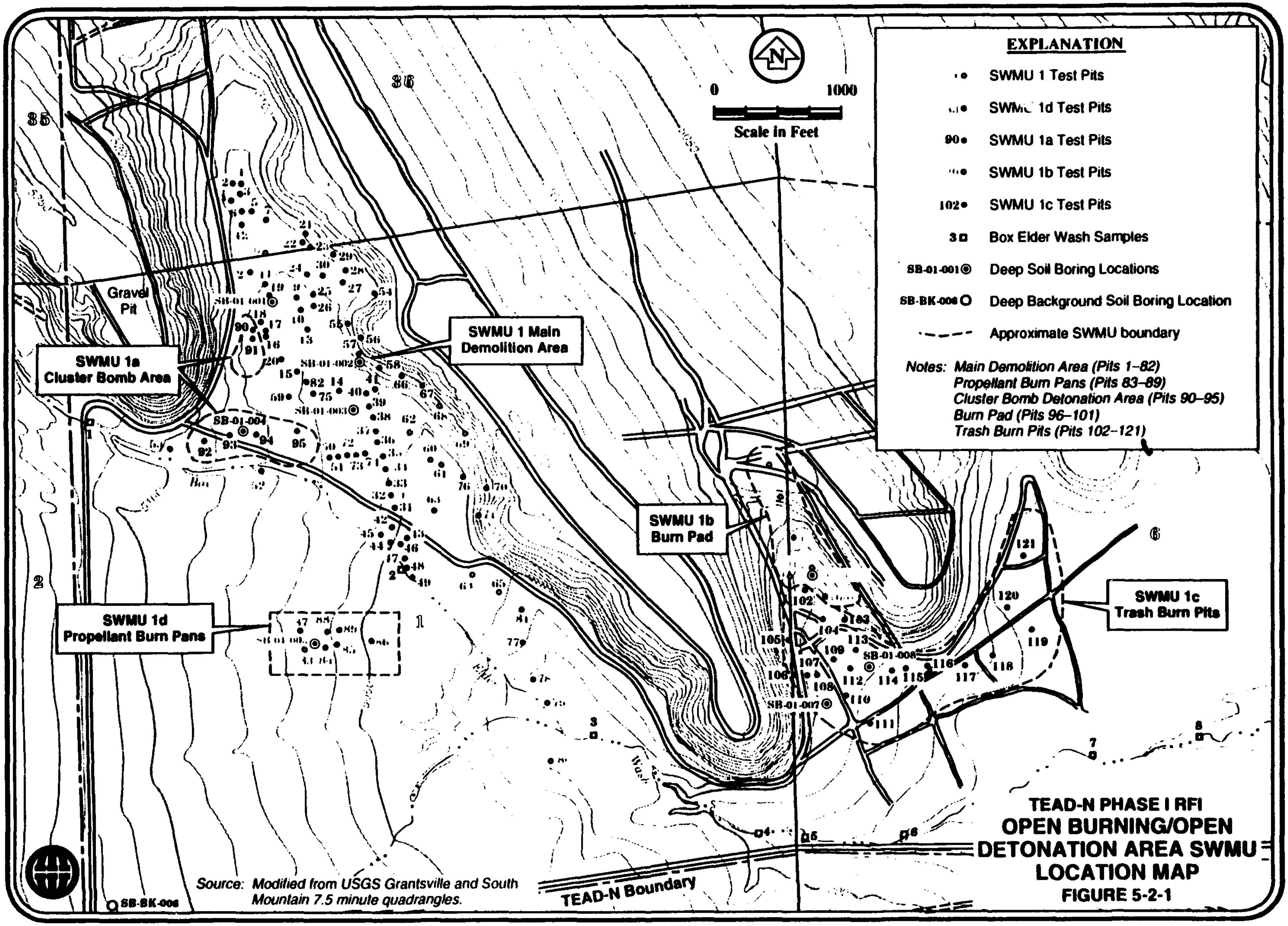
5.2.2. Site Conditions

5.2.2.1. The OB/OD Area (including the Main Demolition Area) is located near the eastern base of the Stansbury Mountains in an erosional dissection of a delta formed by Pleistocene Lake Bonneville (AEHA, 1984). Soils underlying the Main Demolition Area have been mapped by the U.S. Soil Conservation Service as Hiko Peak Series and are composed of sands, silts, and clays developed in alluvium from mixed rock types. Depth to bedrock in this area is generally greater than 700 feet. The depth to the regional groundwater table is over 700 feet based on a soil boring located immediately east of SWMU 1, which was drilled to 709 feet bgs without encountering the water table (ERTEC, 1982). Characteristic of this semi-arid climate, surface water flow is limited to infrequent heavy precipitation events. Drainage is to the south and southwest into Box Elder Wash, which runs east and eventually north for several miles before exiting the facility at the northern boundary.

5.2.2.2. The OB/OD Area subunits are treated individually in the following sections of the contamination assessment. Figure 5-2-1 shows the OB/OD Area and the locations and approximate boundaries of each of the subunits that comprise SWMU 1.

5.2.3. Main Demolition Area Site Description and Waste Generation

5.2.3.1. The Main Demolition Area (SWMU 1) comprises the largest part of the Open Burning/Open Demolition Area and has been used since the 1940s for various



Source: Modified from USGS Grantsville and South Mountain 7.5 minute quadrangles.

TEAD-N PHASE I RFI
OPEN BURNING/OPEN DETONATION AREA SWMU LOCATION MAP
FIGURE 5-2-1

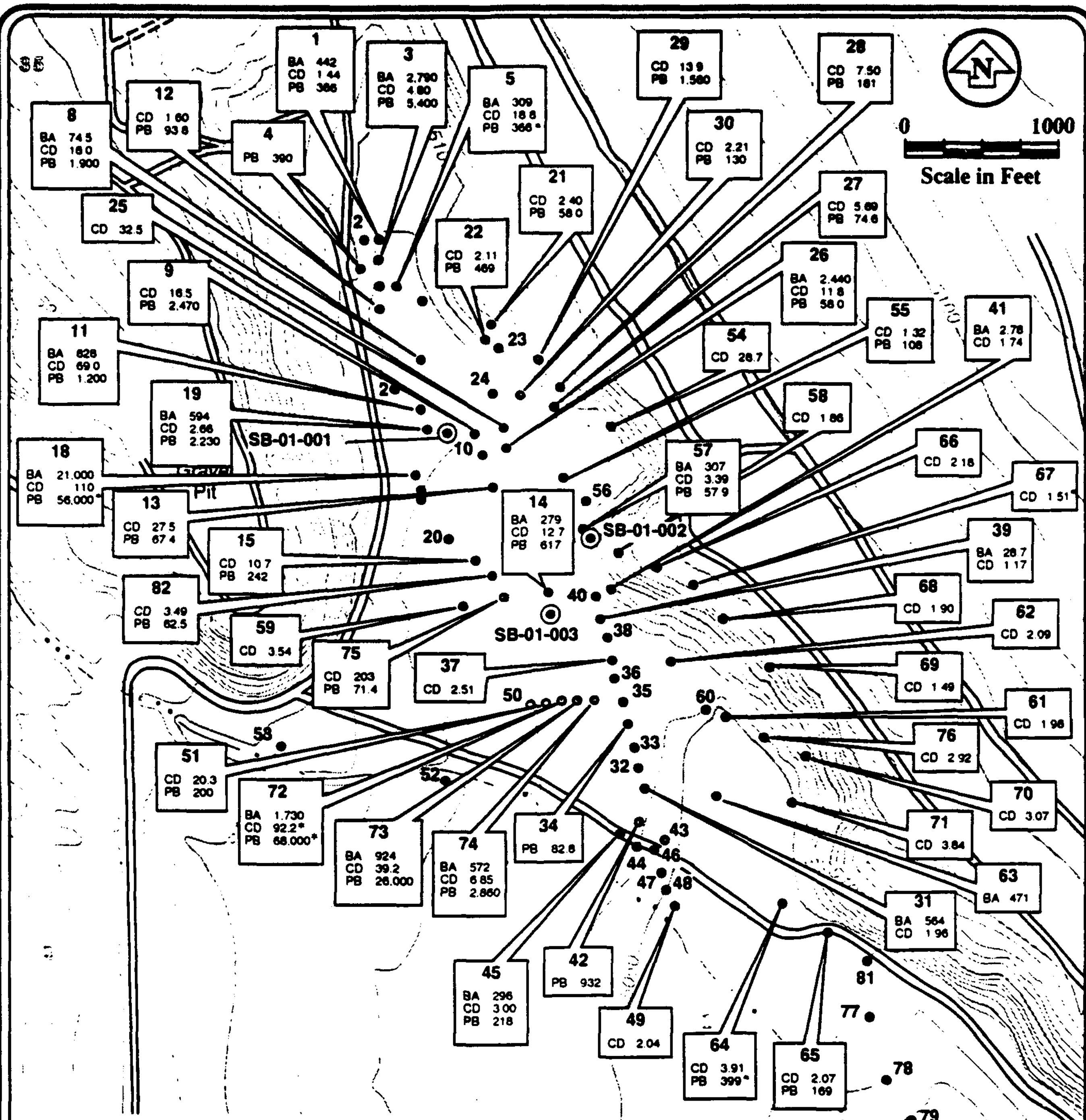
demilitarization activities, including munitions detonation, propellant flashing, and the disposal of various materials from the TEAD-N facility by burning and/or burial. SWMU 1 is currently used for emergency demilitarization of bombs and other explosive munitions. Past activities have included open burning and open detonation of numerous types of munitions and other items in open trenches. As trenches became full of debris and residue, they were backfilled, and new trenches were excavated. Burial is no longer used as a means of waste disposal.

5.2.4. Previous Sampling and Phase I RFI Sampling and Results

5.2.4.1. Previous Investigations. Previous investigations at the Main Demolition Area consist mainly of a four-phase investigation by the U.S. Army Environmental Hygiene Agency (AEHA) during the period 1982-85. This investigation was one of many conducted at OB/OD areas nation-wide to evaluate the potential for environmental contamination. The focus of this AEHA study was mainly the Burn Pad and Trash Burn Pits (SWMUs 1b and 1c) to the east. Surface and subsurface soil samples were collected during Phases II and IV of the study, and results showed the presence of metals and low levels of explosive compounds (AEHA, 1984), but sample locations are not known precisely. See Sections 5.4 and 5.5 (SWMUs 1b and 1c) for more information on the AEHA sample results.

5.2.4.2. Phase I RFI Sampling and Results. Test pits were sampled and logged at 82 locations in the Main Demolition Area during the Phase I RFI. Two soil samples were collected from each test pit for a total of 164 soil samples collected at depths ranging from the ground surface to 10 feet. Five soil samples were submitted for explosive reactivity testing. In addition, three 100-foot soil borings were completed at SWMU 1, and seven soil samples were submitted for analysis from each. Contaminants detected include significant concentrations of metals, minor concentrations of VOCs and SVOCs, and several explosive compounds.

5.2.4.3. Figures 5-2-2 through 5-2-5 show the contaminants found above the background levels. Where both samples from a given test pit showed contamination, the highest value is shown on the figure. This convention is followed for all the test pits at each SWMU at the OB/OD Area. Due to space limitations, Figure 5-2-2 shows only the results for the metals barium, cadmium, and lead, which were previously identified by AEHA as being the metals of concern at the OB/OD Area. Sample results for other metals considered to be contaminants are shown in Table 5-2, included at the end of Section 5.0.



Notes: Only the results for BA, CD, & PB have been plotted. For results on the remainder of the analyzed metals, see the sample results tables for SWMU 1.

All results in µg/g.

METALS ABOVE BACKGROUND

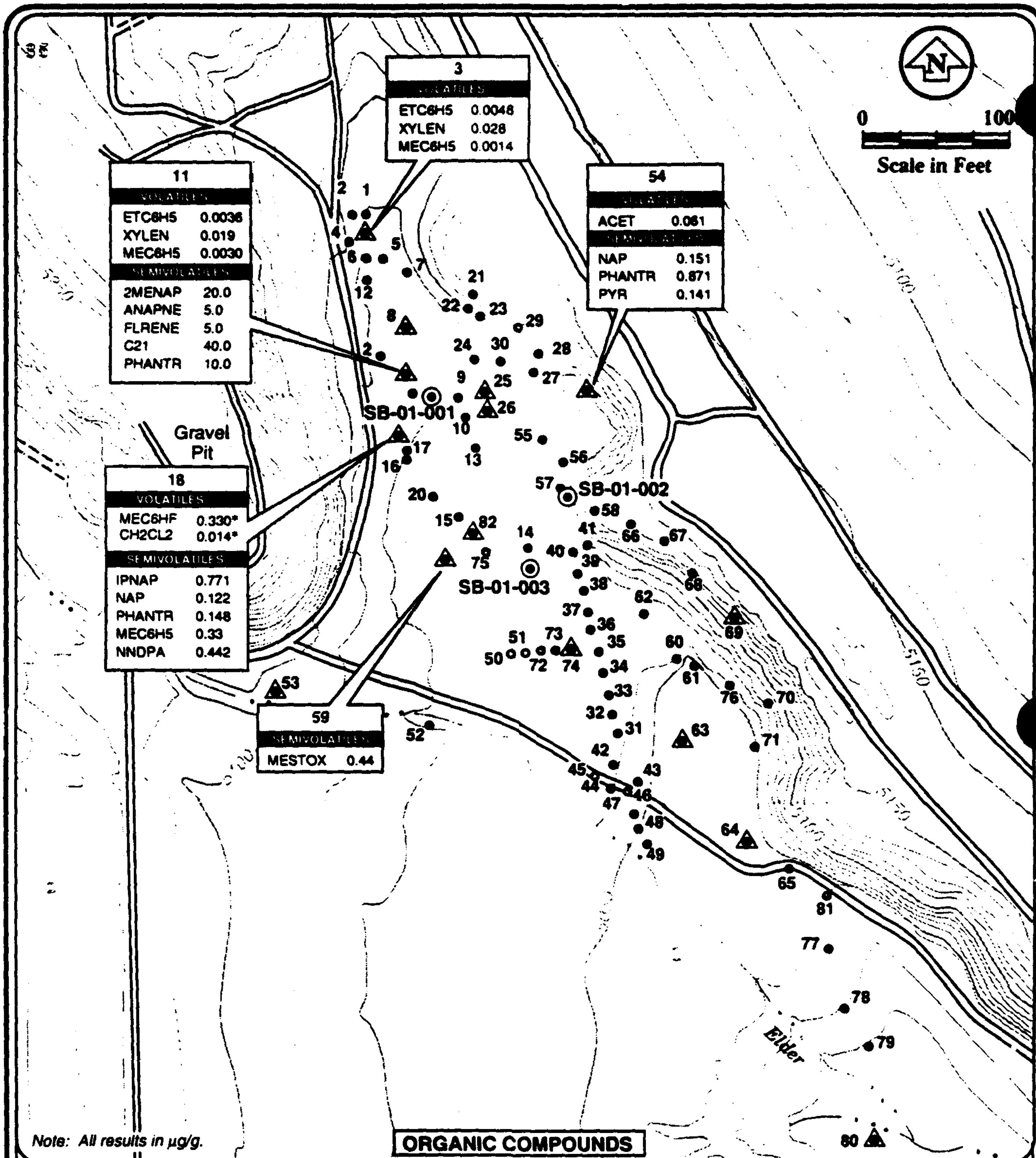
Source: Modified from USGS Grantsville and South Mountain 7.5 minute quadrangles.

EXPLANATION

- ● Test pit location
- ◉ Deep soil boring location
- * Data considered estimated. Refer to Appendix C.

TEAD-N PHASE I RFI
MAIN DEMOLITION AREA (SWMU 1)
TEST PIT SOIL SAMPLES
FIGURE 5-2-2

PROJE O. 2942.0140



Source: Modified from USGS Grantsville and South Mountain 7.5 minute quadrangles.

EXPLANATION

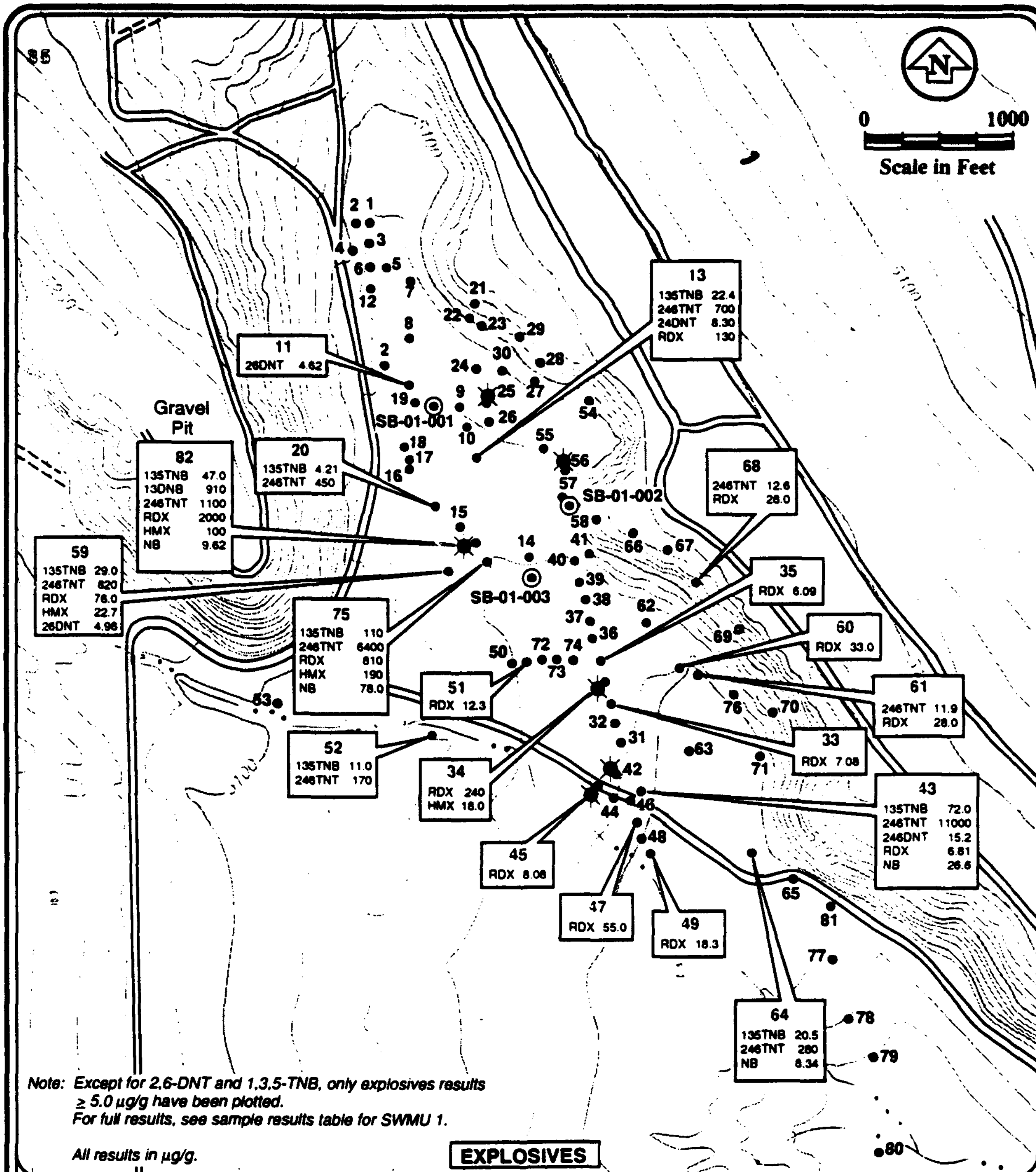
- ● Test pit location
- ▲ Test pit sampled for VOCs/SVOCs
- ◉ Deep soil boring location
- * Data considered estimated. Refer to Appendix C.

TEAD-N PHASE I RFI

MAIN DEMOLITION AREA (SWMU 1) TEST PIT SOIL SAMPLES

FIGURE 5-2-3

PROJECT NO. 2942.0140



Source: Modified from USGS Grantsville and South Mountain 7.5 minute quadrangles.

EXPLANATION

- ● Test pit location
- ◎ Deep soil boring location
- ✸ Explosive reactivity sample location

TEAD-N PHASE I RFI
MAIN DEMOLITION AREA (SWMU 1)
TEST PIT SOIL SAMPLES
FIGURE 5-2-4

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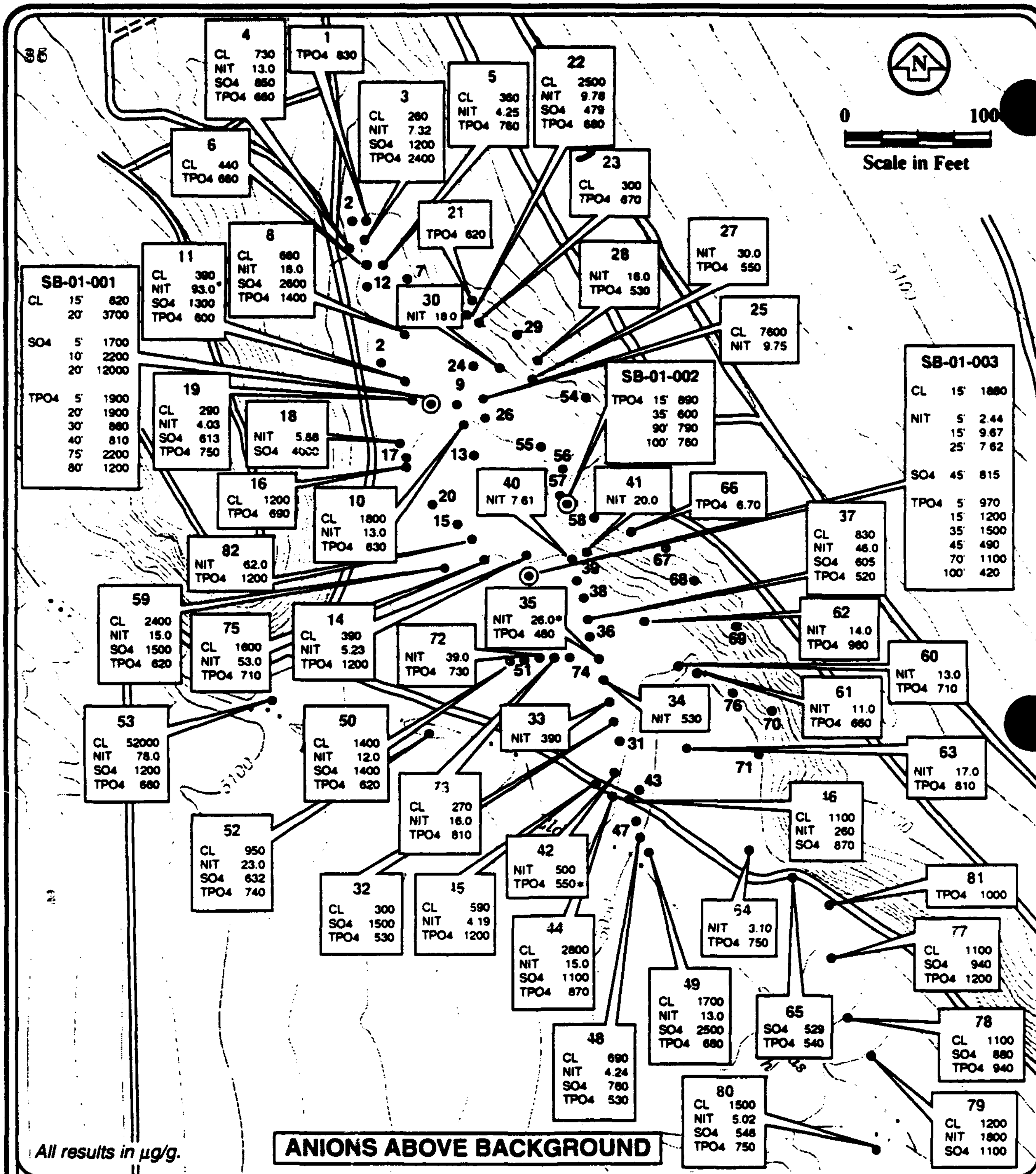


Source: Modified from USGS Grantsville and South Mountain 7.5 minute quadrangles.

EXPLANATION

- ● Test pit location
- ◉ Soil boring location
- * Data considered estimated. Refer to Appendix C.

TEAD-N PHASE I RFI

MAIN DEMOLITION AREA (SWMU 1)

TEST PIT SOIL SAMPLES

FIGURE 5-2-5

PROJECT NO. 2942.0140

5.2.5. Contamination Assessment

5.2.5.1. Based on the results of the Phase I RFI sampling program, it appears a release of contaminants has occurred to the surface and shallow sub-surface soils at the Main Demolition Area. Metals above the RFI background levels were detected in most of the soil samples across SWMU 1. Several samples also exceeded the proposed action level thresholds of 4000 µg/g for barium and 40 µg/g for cadmium. The source of much of this metals contamination is the extensive amount of buried metallic debris observed in the numerous burial trenches, where the highest analytical results for metals occurred.

5.2.5.2. Both VOCs and SVOCs were detected in the shallow sub-surface (less than 10 feet bgs) soils at SWMU 1. Of the fifteen pits sampled for organic compounds, six contained detectable concentrations of VOCs and/or SVOCs (Figure 5-2-3). None of the VOCs or SVOCs exceeded the proposed action level thresholds. No surface samples were submitted for VOC/SVOC analysis at SWMU 1. Localized contamination of soils by organic compounds at SWMU 1 may have been caused by the use of fuels for burning munitions or other items.

5.2.5.3. Detectable quantities of several explosives compounds were found across the Main Demolition Area, probably resulting from the extensive history of OB/OD disposal activities that have taken place here. Figure 5-2-4 summarizes the results of the chemical analyses for explosives. Explosives were found at all depths, but appear in the highest concentrations at the surface and near-surface (down to 1 foot bgs). Because of the numerous concentrations of explosive compounds detected, only the concentrations above 5.00 µg/g for most compounds have been indicated in the figure. This level is below available health-risk guidance for all compounds except 2,4-DNT and 1,3,5-TNB. For these two compounds, all results above 2.27 and 3.9 µg/g, respectively, have been shown. These concentrations reflect health-based levels for these compounds in soil (USEPA, 1989 and USEPA, 1992, respectively). In addition, proposed Subpart S action levels for 2,3-DNT and 2,6-DNT isomers are 1.00 µg/g (USEPA, 1990).

5.2.5.4. One soil sample, selected from an area with burn residue, was submitted for dioxin/furan analysis, and none of these compounds were detected. Elevated levels of nitrates, total phosphates, and sulfate were found in many soil samples. It is not known if elevated levels of these compounds are present because of locally higher background concentrations in the OB/OD areas, or if they may result from the OB/OD activities.

5.2.5.5. Although contamination was found in the surface and shallow sub-surface soils at SWMU 1, the results from the three 100-foot boreholes confirm that this contamination does

not persist to depth. The generally fine-grained, alkaline nature of the OB/OD area soils probably tends to inhibit contaminant migration. Vertical migration of contaminants is also minimized by the semi-arid climate present at TEAD-N, where evaporation rates exceed precipitation. These factors, and the depth to groundwater in this area (greater than 700 feet), make it unlikely that a threat to groundwater exists.

5.2.6. Recommendation

5.2.6.1. Based on the results of the Phase I RFI sampling, there is evidence that demilitarization activities at this SWMU have released contaminants to the environment. For this reason, it is recommended that this SWMU be included in future Phase II investigation activities. Specific recommendations for the Main Demolition Area are included in Section 6.0 of this document.

5.3 CLUSTER BOMB DETONATION AREA (SWMU 1a)

5.3.1. Site Description and Waste Generation

5.3.1.1. The Cluster Bomb Detonation Area (SWMU 1a) is located at the OB/OD Area, in the southwestern corner of the TEAD-N facility. It is comprised of two small areas, totaling about 25 acres in size, along the western side of the Main Demolition Area (SWMU-1). Evidence from aerial photographs and field inspection in these areas revealed several small craters where cluster bomb demilitarization was thought to have occurred (Figure 5-2-1). This area was reportedly used during the early and mid-1970s (Rutishauser, 1991). Currently, the area is covered by native vegetation, and SWMU 1a is no longer used for demilitarization activities.

5.3.2. Previous Sampling and Phase I RFI Sampling and Results

5.3.2.1. Previous Investigations. The U.S. Army Environmental Hygiene Agency (AEHA) collected and analyzed four surface soil samples from the area of SWMU 1a in 1981, during their four-phase study of OB/OD areas nationwide. The samples were analyzed for six explosive compounds and for EP Toxicity. Results of these analyses showed concentrations of barium, arsenic, mercury, lead, RDX, 2,4,6-TNT, and TETRYL in the EP Toxicity leachate at levels below regulatory limits or AEHA criteria. Sample locations were not recorded in available documents.

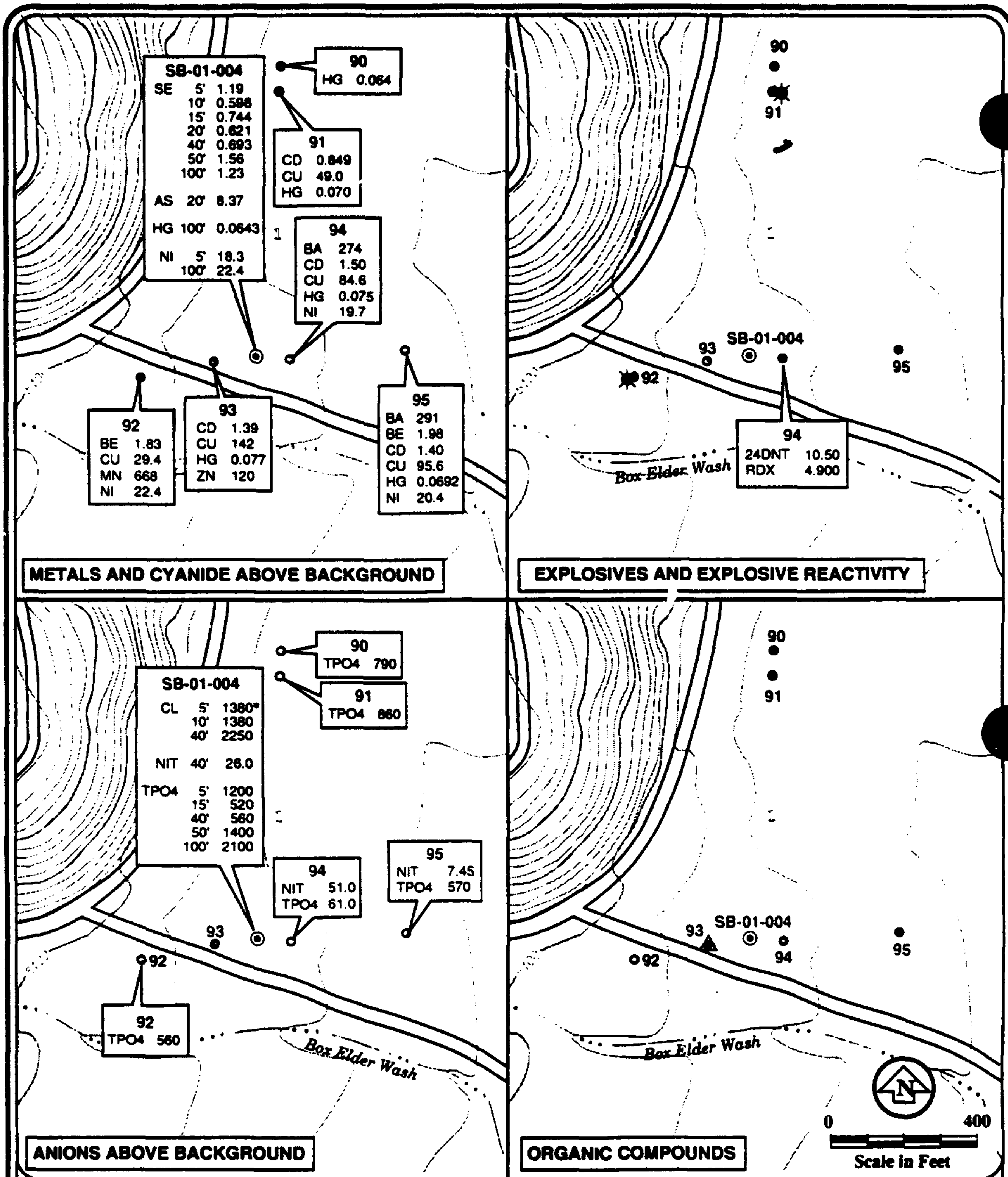
5.3.2.2. Phase I RFI Sampling and Results. Six test pits were excavated, sampled, and logged at the Cluster Bomb Detonation Area during the Phase I RFI sampling. Two soil samples were collected from each test pit for a total of 12 samples. In addition, one 100-foot soil boring was completed, and seven soil samples were collected from various depths. All samples were analyzed for total metals, cyanide, explosive chemicals, and anions, and selected samples were also submitted for VOC, SVOC, and dioxins/furans analysis. Two soil samples from this SWMU were submitted for explosive reactivity tests.

5.3.2.3. Figure 5-3-1 shows the concentrations of metals and cyanide, explosive chemicals, anions, and organic compounds that were detected at concentrations above the RFI background values, and their locations at SWMU 1a. Table 5-3, at the end of Section 5.0, contains a summary of the compounds detected.

5.3.3. Contamination Assessment

5.3.3.1. Based on the results of the Phase I RFI sampling at SWMU 1a, it appears that contaminants have been released to the surface and near-surface soils. Several metals were found at elevated levels in all six test pits, but, with one exception, none were found at levels of concern as quantified by available health-based criteria tables (USEPA, 1989). Mercury was found in all the pits except one, with all results below 0.100 µg/g. Cadmium was found in three of the six pits, with all concentrations less than 2.0 µg/g. For comparison, proposed RCRA Subpart S action levels are 20 µg/g and 40 µg/g for mercury and cadmium in soil, respectively. Beryllium was detected in one sample at a concentration of 1.83 µg/g which exceeds the proposed Subpart S 0.2 µg/g action level. Selenium was detected in all of the samples submitted for the 100-foot boring, although this may reflect natural levels of this metal in deeper soils because it was noted in other deep soil borings at the OB/OD Area and infrequently detected in the surface and shallow soils analyses.

5.3.3.2. One sample from test pit EP-01-093 was selected for VOC and SVOC analysis based on field screening with a photoionization organic vapor detector (PID). It contained only a small amount of the tentatively identified compound (TIC) hexadecanoic acid. Only one sample, from test pit EP-01-094, at 5 feet bgs, contained explosive compounds. The concentration of 2,4-DNT (10.5 µg/g) in this sample exceeds the health-based criteria for carcinogens in soil for this compound (2.27 µg/g). The two soil samples submitted for explosive reactivity testing both were found to be nonreactive.



Source: *Modified from USGS Grantsville and South Mountain 7.5 minute quadrangles.*

Note: *All results in µg/g.*

EXPLANATION

- 95 ● Test pit location
- Explosive reactivity sample location
- SB-01-004 ◎ Deep soil boring location
- ▲ Test pit sampled for VOCs/SVOCs
- * Data considered estimated. Refer to appendix C.

PROJECT NO. 2942.0140

TEAD-N PHASE I RFI
CLUSTER BOMB AREA (SWMU 1a)
TEST PIT SOIL SAMPLES
FIGURE 5-3-1

5.3.3.3. All samples were analyzed for the major anions, and some elevated levels of nitrates/nitrites and total phosphates were found. Total phosphates in particular seem to be elevated throughout the deep soil boring. One sample from SWMU 1a was submitted for dioxin/furan analysis. None of these compounds were found.

5.3.3.4. In general, a release of contaminants has occurred at SWMU 1a, although most are present at levels below applicable health-based criteria and draft Subpart S action levels for soil. The exceptions to this are one detection of beryllium (1.98 µg/g) and one of DNT (10.5 µg/g) that exceed the respective Subpart S action level and health-based criteria for these analytes in soil.

5.3.4. Recommendation

5.3.4.1. Based on the results of the Phase I RFI sampling at the Cluster Bomb Detonation Area, there appears to be a release of contaminants to the environment. However, because of the location of this SWMU relative to the Main Demolition Area (i.e., physically contained within the Main Demolition Area), it is recommended that future investigations of the Cluster Bomb Detonation Area be incorporated into investigations of the Main Demolition Area, and SWMU 1a should not be investigated as a separate sub-SWMU.

5.4 BURN PAD (SWMU 1b)

5.4.1. Site Description and Waste Generation

5.4.1.1. The Burn Pad (SWMU 1b) is located at the OB/OD Area, in the southwestern corner of the TEAD-N facility (Figure 3-1). Figure 5-2-1 shows the location of the Burn Pad with respect to the larger OB/OD Area. It previously consisted of a cleared pad approximately 300 feet by 90 feet in size where propellant was burned in open trenches, and projectiles were flashed. This activity began sometime prior to 1959, and open burning was reportedly discontinued before 1977 (AEHA, 1983). Analyses of aerial photographs from 1959, 1966, and 1978 revealed that five separate trenches were excavated in the pad. The area has since been regraded and revegetated. The Burn Pad is no longer used for any demilitarization activities.

5.4.2. Previous Sampling and Phase I RFI Sampling and Results

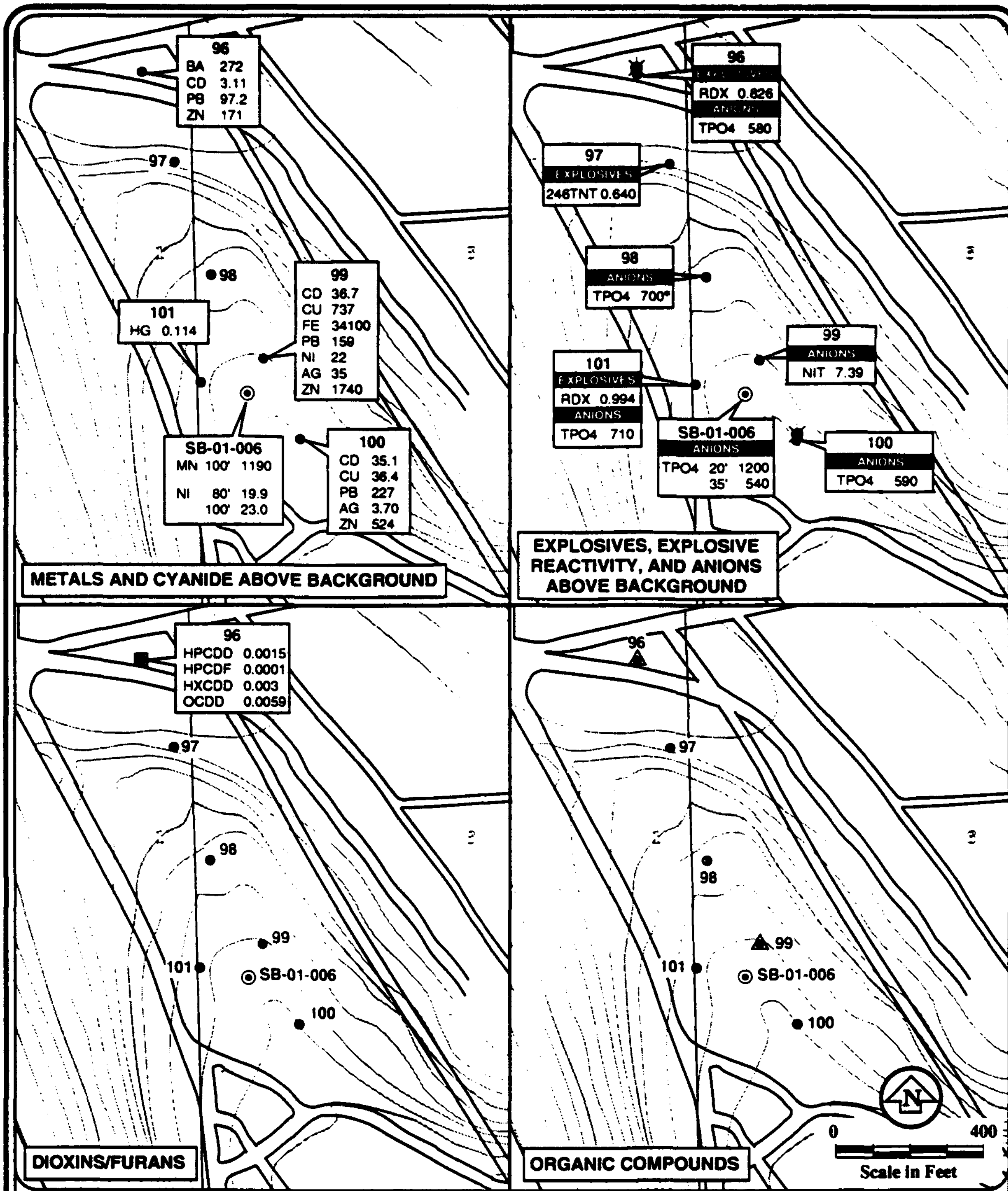
5.4.2.1. Previous Investigations. The U.S. Army Environmental Hygiene Agency (AEHA) collected and analyzed fourteen surface and near-surface soil samples from the Burn Pad and its vicinity during its Phase II study in 1981 (AEHA, 1982). The samples were analyzed for six explosive compounds and for EP Toxicity of the eight RCRA metals. Results of these analyses showed concentrations of arsenic, mercury, HMX, and RDX in the EP Toxicity leachate, but at levels below regulatory limits (USEPA, 1988) or AEHA criteria. These previous sample locations were not recorded in available documents.

5.4.2.2. Phase I RFI Sampling and Results. Six test pits were excavated, sampled, and logged at the Burn Pad during the Phase I RFI sampling. Two soil samples were collected from each test pit for a total of 12 samples. Two soil samples from this SWMU were submitted for explosive reactivity testing. In addition, one 100-foot soil boring was drilled, with seven soil samples collected from various depths in the boring. All samples were analyzed for total metals, cyanide, explosive compounds, and anions, and selected samples were also submitted for VOC, SVOC, and dioxins/furans analysis.

5.4.2.3. Figure 5-4-1 shows the concentrations of metals and cyanide, explosives, and anions, dioxins/furans and organic compounds detected at concentrations above the RFI background values, and their locations at SWMU 1b. Table 5-4, at the end of Section 5.0, contains a summary of the contaminants detected.

5.4.3. Contamination Assessment

5.4.3.1. Based on the results of the Phase I RFI sampling at SWMU 1b, it appears that contaminants have been released to the surface and near-surface soils by previous activities. Concentrations of several metals were found in four of the six test pits, but none were present at levels of concern, based on available health-based criteria tables (USEPA, 1989), and none exceeded proposed Subpart S action levels. Test pits EP-01-099 and EP-01-100 showed the highest levels of metals, with both cadmium and lead present at elevated levels. Test pit EP-01-096 also contained these metals, but in lower concentrations. The deep soil boring showed levels of nickel and manganese above the background thresholds for deep soils near the bottom of the boring, but these metals are not of concern at these levels and may represent native soil conditions.



Source: Modified from USGS Grantsville and South Mountain 7.5 minute quadrangles.

EXPLANATION

Note: All results in µg/g.

- 100 ● Test pit location
- ✱ Explosive reactivity sample location
- SB-01-006 ◎ Deep soil boring location
- 96 ▲ Test pit sampled for VOCs/SVOCs
- 96 ■ Test pit sampled for Dioxin/Furans
- * Data considered estimated. Refer to appendix C.

TEAD-N PHASE I RFI

BURN PAD (SWMU 1b) TEST PIT SOIL SAMPLES

FIGURE 5-4-1

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5.4.3.2. Two samples from the Burn Pad (from test pits EP-01-099 and EP-01-096) were submitted for VOC and SVOC analysis based on field screening with a PID. A low concentration of tetrachloroethene was reported in a sample from EP-01-099. However, this compound was detected as a tentatively identified compound (TIC) by the SVOC method and not confirmed by the VOC method and will not be considered in this assessment. A minor amount of a phthalate compound (B2EHP) was also reported from the 35-foot bgs sample from the soil boring, but it also will be disregarded as it is a common laboratory contaminant.

5.4.3.3. Soil samples from two test pits contained the explosive RDX and a sample from a third test pit contained 2,4,6-TNT. Concentrations of these explosives were less than 1 µg/g. Results of two soil samples submitted from SWMU 1b for explosive reactivity testing were both negative.

5.4.3.4. One sample from SWMU 1b (EP-01-096, 3.5 feet bgs), which was collected from an area of burned debris, was submitted for dioxin/furan analysis. Several isomers of dioxins and furans were detected (all less than 0.01 µg/g), and none of the dioxins/furans detected were the tetrachlorinated isomer (TCDD or TCDF), which is the most toxic. However, one dioxin isomer (HXCDD) was detected here at 0.003 µg/g, which exceeds the proposed Subpart S action level for this isomer (0.0001 µg/g). All samples were analyzed for the major anions, and some slightly elevated levels of nitrates/nitrites and total phosphates were found. It is not known if these analytes are naturally-occurring soil constituents or the byproducts of explosive compounds from the previous demilitarization activities conducted here.

5.4.3.5. In general, contaminants are present at SWMU 1b in the surface and near-surface soils. Even though the groundwater underlying SWMU 1b was not sampled, the depth to the water table makes it unlikely that groundwater contamination has occurred due to activities at the Burn Pad. The generally fine-grained and alkaline nature of the site soils, combined with the semi-arid climate, also help to decrease the mobility of the contaminants.

5.4.4. Recommendation

5.4.4.1. Based on the results of the Phase I RFI sampling at the Burn Pad, a release of contaminants has occurred. As the effect on human health and the environment of this release is not known at this time, especially for on-site workers and wildlife, a Phase II evaluation of the existing data is recommended. Specific recommendations for this sub-SWMU are included in Section 6.0.

5.5 TRASH BURN PITS (SWMU 1c)

5.5.1. Site Description and Waste Generation

5.5.1.1. The Trash Burn Pits (SWMU 1c) are located in the OB/OD Area in the southwestern corner of the TEAD-N facility (Figure 3-1). Figure 5-2-1 shows the location of the Trash Burn Pits with respect to the larger OB/OD Area. This SWMU consists of an area previously used for open burning of waste packaging material potentially contaminated with explosives. Large pits were excavated using heavy equipment and filled with waste materials to be burned. When the pit was filled with ash and debris, it was covered and regraded, and a new pit was dug. Pits were generally up to several hundred feet long, 8-10 feet wide, and 4-6 feet deep (Rutishauser, 1990). Analysis of aerial photographs of this area shows that activities at SWMU 1c pre-date 1959.

5.5.1.2. Various types of waste have reportedly been burned and disposed of in the Trash Burn Pits. Debris from propagation testing and solvent drums were observed during a previous investigation (AEHA, 1983). Volatile organic compound contaminated wastes were also reportedly disposed of here. Open detonation of munitions is not believed to have occurred at this SWMU (McCoy, 1989). The Trash Burn Pits are no longer used for any disposal activities.

5.5.2. Previous Sampling and Phase I RFI Sampling and Results

5.5.2.1. Three samples, including one burn residue sample and two soil samples, were collected from the Trash Burn Pits during the AEHA Phase II sampling. Samples were analyzed for EP Toxicity metals, RDX, HMX, 2,4,6-TNT, 2,4-DNT, and 2,6-DNT. Arsenic, barium, mercury, and 2,4,6-TNT were detected in the soil samples (AEHA, 1983). During Phase IV of the AEHA study, 36 soil samples were collected, including eight from surface soil sample locations and 28 from boreholes (down to 20 feet bgs) in the Trash Burn Pits area. Phase IV samples were analyzed for EP Toxicity metals, total metals (PB, CR, CD, AS, AG, BA, HG, and SE), and explosives (HMX, RDX, 2,4,6-TNT, TETRYL, 2,4-DNT, and 2,6-DNT). All EP Toxicity results were below the detection limits. RDX was found in four of the surface soil samples (2.2 mg/kg to 14.9 mg/kg) and HMX was found in one surface soil sample (2.4 mg/kg). These results did not exceed the explosive compound guidelines (1,000 mg/kg) established for the AEHA study. Other compounds that were detected included several metals (AS, PB, CR, CD, and BA). However, arsenic, lead, and chromium were believed to be naturally occurring in the soils. Results of this investigation suggest that the primary

analytes of concern at this site are barium, lead, and cadmium. None of these compounds were detected at levels approaching any present health-based action criteria, however.

5.5.2.2. During the Phase I RFI, twenty test pits were excavated, sampled, and logged. Two soil samples were collected from each test pit, for a total of 40 samples. Four soil samples from this SWMU were submitted for explosive reactivity testing. In addition, two 100-foot soil borings were drilled, with seven soil samples collected from various depths in each boring. All samples were analyzed for total metals, cyanide, explosive compounds, VOCs, SVOCs, and anions, and one selected sample of burn residue was submitted for dioxin/furan analysis.

5.5.2.3. Figures 5-5-1, 5-5-2, and 5-5-3 show the concentrations of metals and cyanide, volatile and semi-volatile organic compounds and dioxins/furans, and anions and explosives that were detected at concentrations above the RFI background values in SWMU 1c. Table 5-5, included at the end of Section 5.0, contains a summary of the contaminants detected.

5.5.3. Contamination Assessment

5.5.3.1. Based on the results of the Phase I RFI sampling at SWMU 1c, contaminants have been released to the surface and near-surface soils by on-site activities. Varying concentrations of several metals were found in seventeen of the twenty test pits, with barium, cadmium, chromium, lead, and zinc being most common. Two of the metals identified by AEHA of greatest concern (AEHA, 1985), cadmium and lead, were present at concentrations up to 73 and 4400 μg/g, respectively. Two detections of cadmium (test pits 108 and 118) were above the proposed Subpart S action level of 40 μg/g for cadmium in soil. The deep soil boring SB-01-008 showed some above-background levels of selenium throughout the boring. However, as discussed in Section 5.3, this may be due to naturally-occurring conditions in the deeper soils. Cyanide was not detected at SWMU 1c.

5.5.3.2. Volatile and semi-volatile organic compounds were detected in eight of the twenty test pits and at 35 feet in one of the two soil borings. The VOCs toluene and acetone were detected in several samples while chloroform, hexane and methylene chloride were present in one sample. All VOCs were found in concentrations less than 1 μg/g, and generally less than 0.1 μg/g. These levels are more than 100 times less than the health-based criteria and proposed Subpart S action levels. The highest concentration for an SVOC was bis (2-ethylhexyl) phthalate at a concentration of 0.710 μg/g in pit EP-01-112. This level is below the proposed Subpart S action level of 50 μg/g. Other SVOCs detected include naphthelene,

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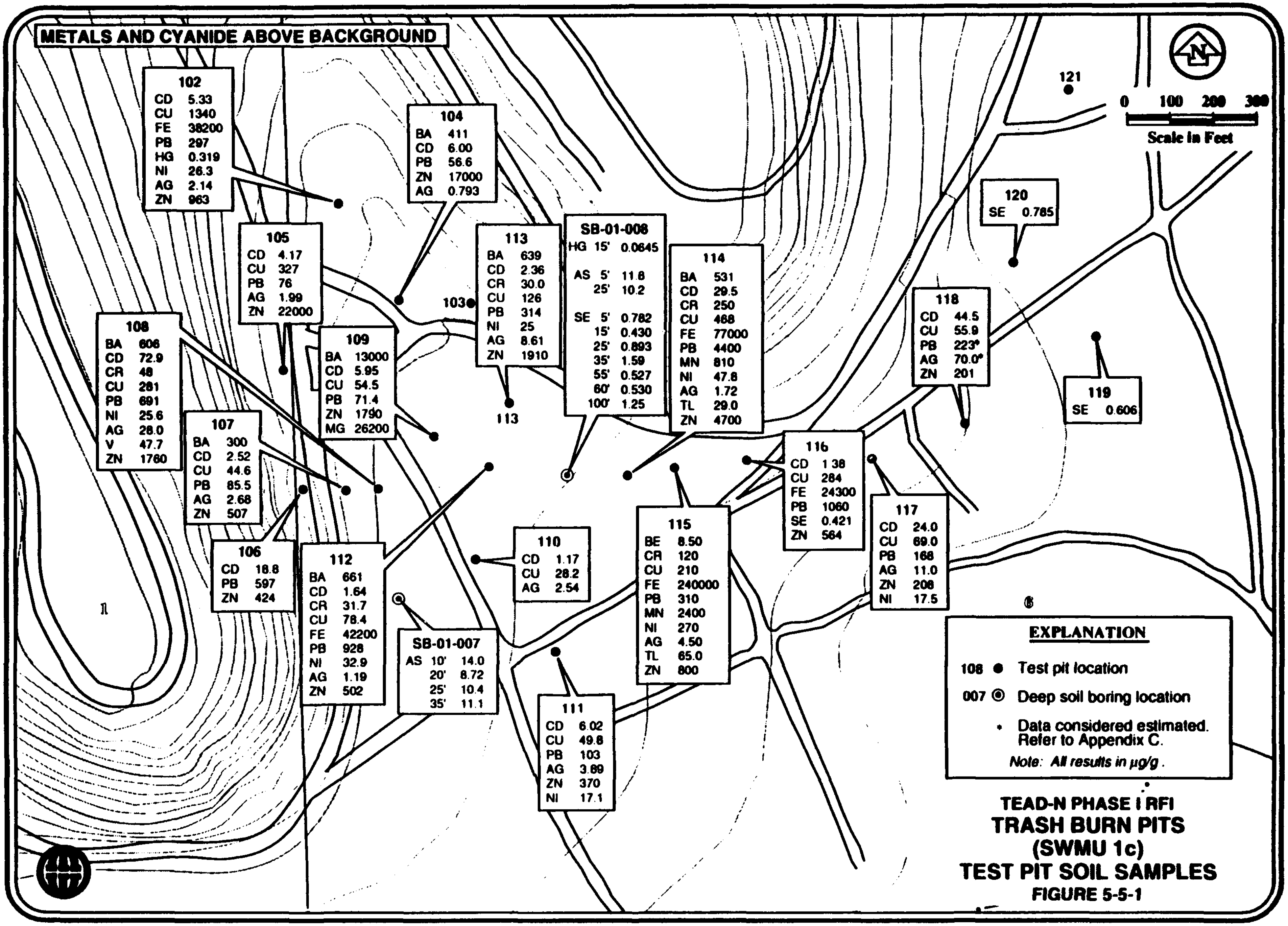
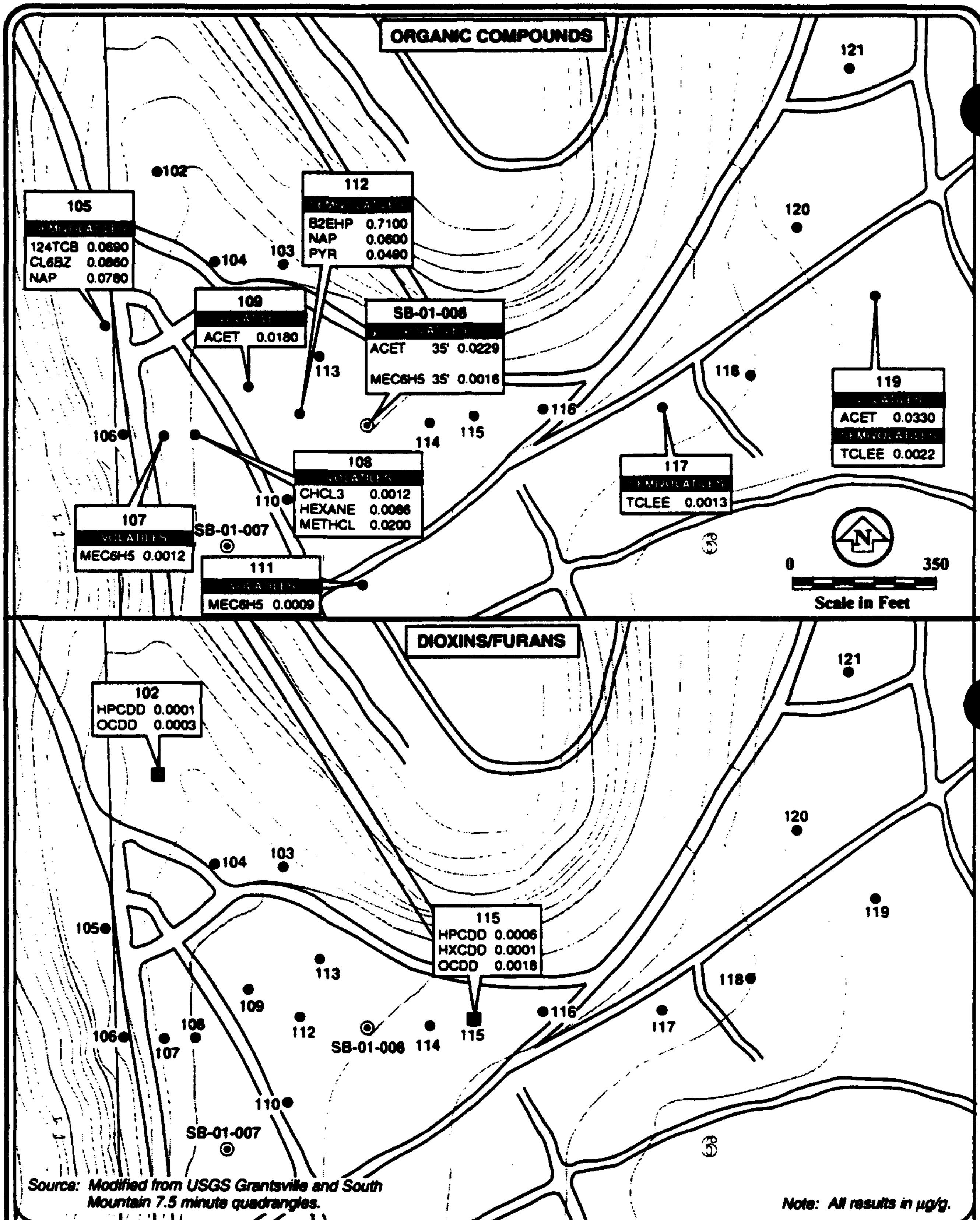


TEAD-N PHASE I RFI
TRASH BURN PITS
(SWMU 1c)
TEST PIT SOIL SAMPLES
FIGURE 5-5-1

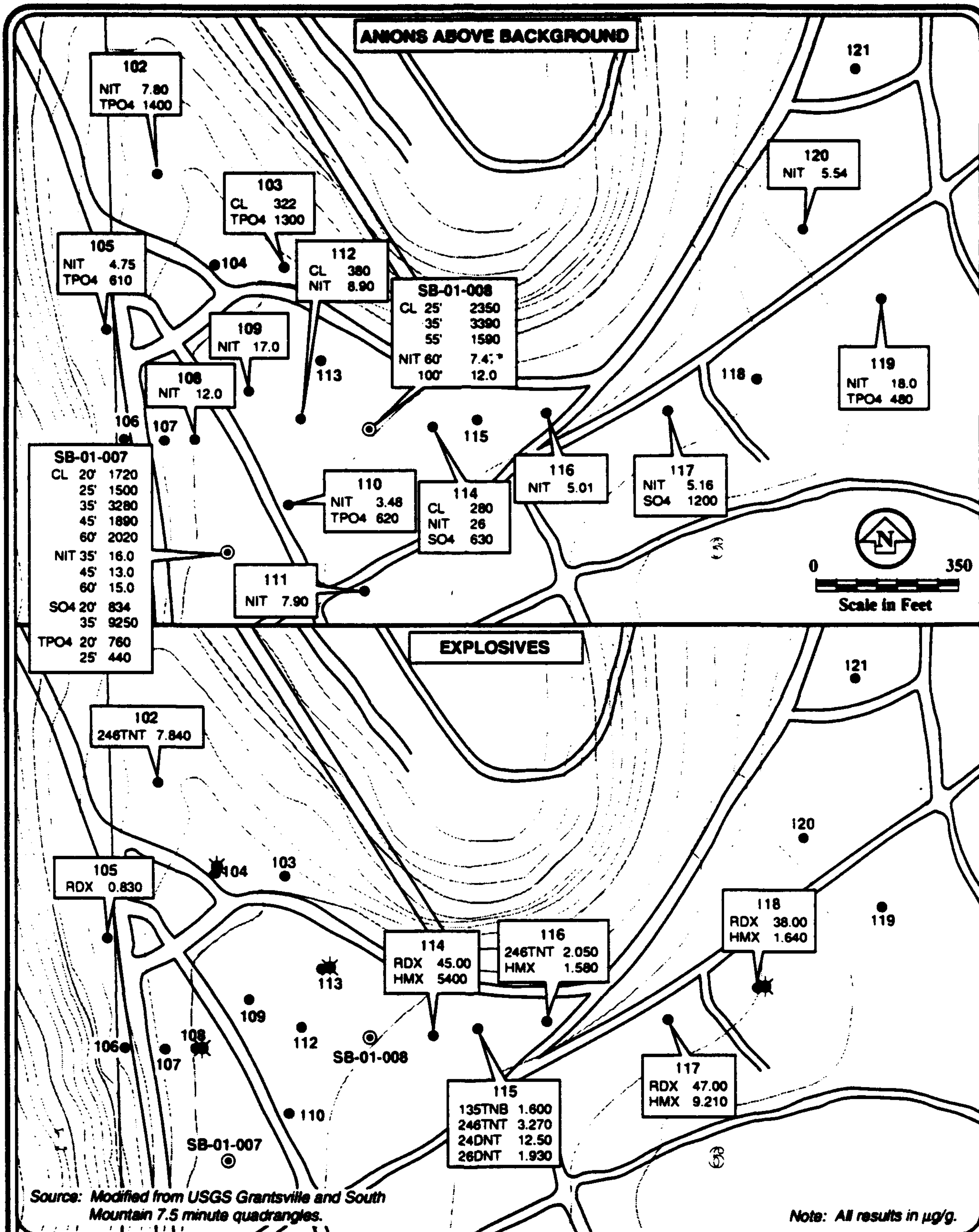


EXPLANATION

- 108 ● Test pit location
- 115 ■ Test pit sampled for Dioxins/Furans
- 007 ◉ Deep soil boring location

TEAD-N PHASE I RFI
TRASH BURN PITS (SWMU 1c)
TEST PIT SOIL SAMPLES
FIGURE 5-5-2

PROJECT NO. 2942.0140



EXPLANATION

108 ● Test pit location

✱ Explosive reactivity sample location

007 ◎ Deep soil boring location

* Data considered estimated. Refer to Appendix C.

TEAD-N PHASE I RFI
TRASH BURN PITS (SWMU 1c)
TEST PIT SOIL SAMPLES
FIGURE 5-5-3

PROJECT NO. 2942.0140

1,2,4-trichlorobenzene, hexachlorobenzene and pyrene at concentrations below 0.1 mg/g. Of these compounds, only 1,2,4-trichlorobenzene has a proposed action level (2000 μg/g). Several trace concentrations of the VOC trichlorofluoromethane were detected in seven test pit samples, but have not been included here due to the probability that they resulted from laboratory contamination (e.g., a possible refrigerant leak).

5.5.3.3. Two samples from SWMU 1c (EP-01-102, 3.5 feet bgs and EP-01-115, 5.5 feet bgs), were collected from an area of buried debris and submitted for dioxin/furan analysis. Low concentrations (i.e., less than 0.002 μg/g) of hepta-, octa-, and hexachlorodioxins were found. None of these compounds were the tetrachlorinated isomer, but one hexachlorodioxin (HXCDD) result from test pit 115 of 0.0001 μg/g equaled the proposed Subpart S action level for that isomer.

5.5.3.4. All samples were analyzed for the major anions. Concentrations of nitrates/ nitrites, total phosphates, and chloride were found above background in twelve of the twenty test pits, as well as both soil borings. These could be due to natural conditions or could be the byproducts of explosive compounds from the previous demilitarization activities conducted here. The soil borings in particular show elevated chloride concentrations down to about 60 feet bgs, but these elevated values are likely due to naturally-occurring conditions in the deeper soils.

5.5.3.5. Seven test pits were found to contain explosive compounds in the soil, with a sample from test pit EP-01-114 having the highest concentration of 5400 μg/g of HMX. Explosive compounds were found in the soils at all depths sampled in the test pits, ranging from surface to 9.5 feet bgs. One sample from test pit EP-01-115 contained 12.5 μg/g of 2,4-DNT and 1.93 μg/g of 2,6-DNT which exceed the respective health-based criteria and proposed Subpart S action levels of 2.27 μg/g and 1.0 μg/g for these isomers of DNT.

5.5.3.6. In general, contaminants are present at SWMU 1c at various levels in the surface and near-surface soils. Even though the groundwater underlying SWMU 1c was not sampled, the depth to the water table here makes it unlikely that groundwater contamination has occurred due to activities at the Trash Burn Pits. The generally fine-grained and alkaline nature of the site soils, combined with the semi-arid climate, also help to decrease the mobility of the contaminants present.

5.5.4. Recommendation

5.5.4.1. Based on the results of the Phase I RFI sampling at the Trash Burn Pits, a release of contaminants has occurred. As the effect on human health and the environment of this release is not known at this time, especially for on-site workers, a Phase II evaluation of the

existing data is recommended. Specific recommendations are included in Section 6.0 of this report.

5.6 PROPELLANT BURN PANS (SWMU 1d)

5.6.1. Site Description and Waste Generation

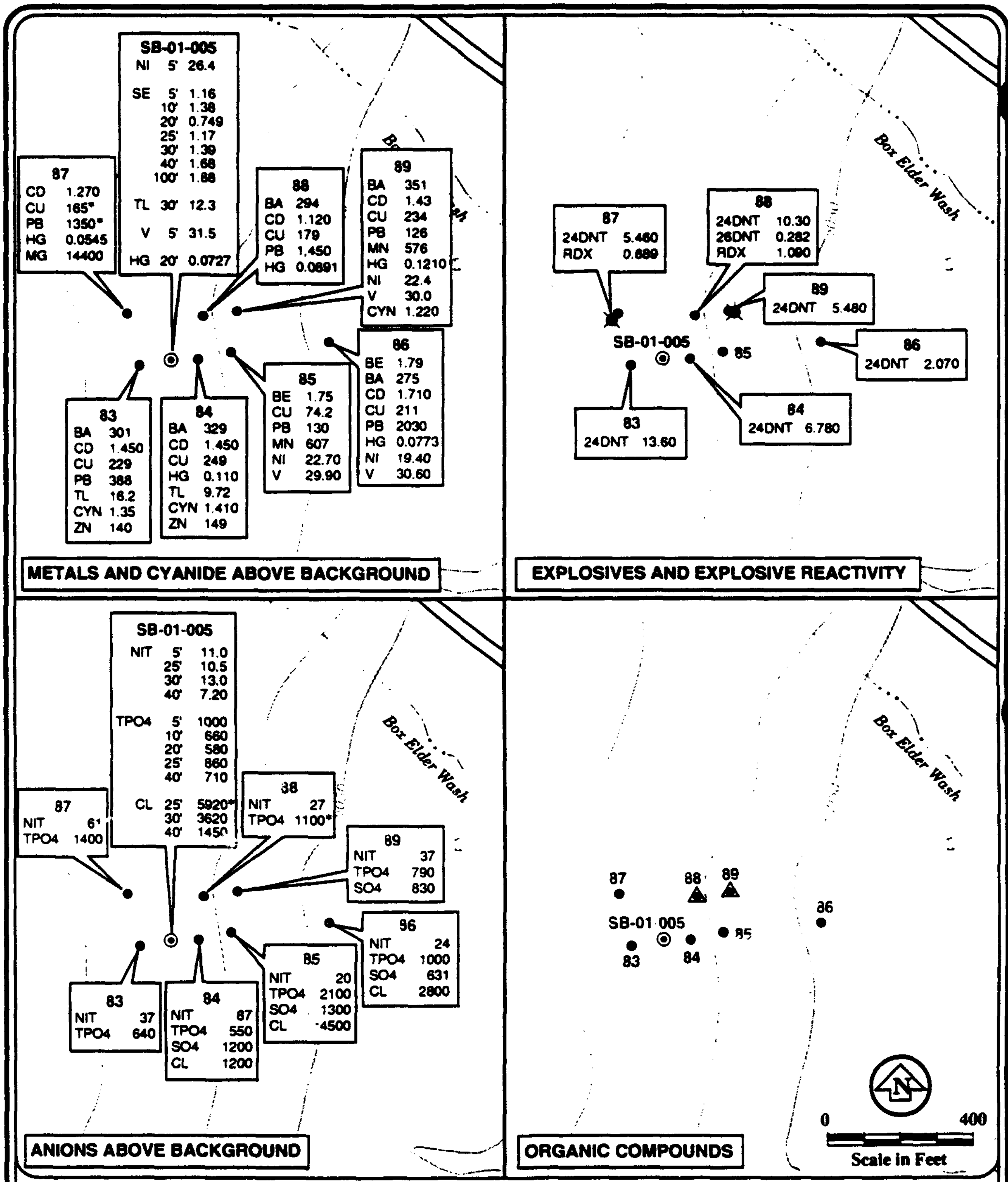
5.6.1.1. The Propellant Burn Pans (SWMU 1d) are located at the OB/OD Area in the southwestern corner of the TEAD-N facility (Figure 3-1). Figure 5-2-1 shows the location of the Burn Pans with respect to the larger OB/OD Area. This SWMU consists of an area of approximately 600 feet by 200 feet which has been cleared of vegetation and equipped with eight large steel "pans". Bulk propellant scheduled for disposal is loaded into the pans and ignited with fuses. The propellant material burns down to a fine ash, which is then containerized and handled as a hazardous waste. The propellant handling and burning is conducted according to all AEHA recommended best management practices (AEHA, 1987). The pans are covered between burns to prevent precipitation from accumulating in them.

5.6.1.2. The only wastes disposed of at SWMU 1d are the propellants that are burned here. During the Phase I RFI field program, the Propellant Burn Pans were used frequently.

5.6.2. Previous Sampling and Phase I RFI Sampling and Results

5.6.2.1. Previous Investigations. No previous sampling activities have been conducted at SWMU 1d, except as associated with the larger OB/OD Area. The U.S. Army Environmental Hygiene Agency (AEHA) collected and analyzed several soil samples from the OB/OD Area during the period 1981-84, but available documents do not identify the exact locations of these samples. The Propellant Burn Pans were not in operation prior to the late 1980s (Rutishauser, 1990).

5.6.2.2. Phase I RFI Sampling and Results. Seven test pits were excavated, sampled, and logged at the Propellant Burn Pans during the Phase I RFI sampling. The test pits were excavated adjacent to and between the burn pans, and two soil samples were collected from each test pit for a total of 14 samples. Two soil samples from this SWMU were submitted for explosive reactivity testing. In addition, one 100-foot soil boring was drilled, with seven soil samples collected from various depths in the boring. All samples were analyzed for total metals, cyanide, explosive compounds, and anions, and one selected sample containing ash residue was submitted for dioxin/furan analysis. Two samples were submitted for VOC and SVOC analyses. Figure 5-6-1 shows the concentrations of metals and cyanide, explosives, anions, and organic compounds that were detected at concentrations above the RFI



Source: Modified from USGS Grantsville and South Mountain 7.5 minute quadrangles.

Note: All results in µg/g.

EXPLANATION

87 ● Test pit location

Explosive reactivity sample location

SB-01-005 ◎ Deep soil boring location

▲ Excavation pit sampled for VOCs/SVOCs

* Data considered estimated. Refer to Appendix C.

PROJECT NO. 2942.0140

TEAD-N PHASE I RFI
PROPELLANT BURN PANS (SWMU 1d)
TEST PIT SOIL SAMPLES
FIGURE 5-6-1

background values, and their locations at SWMU 1d. Table 5-6, included at the end of Section 5.0, contains a summary of the contaminants detected.

5.6.3. Contamination Assessment

5.6.3.1. Based on the results of the Phase I RFI sampling at SWMU 1d, it appears that contaminants have been released to the surface soils by the ongoing open burning activities. Varying concentrations of several metals were above the RFI background thresholds in all seven of the test pits, with barium, cadmium, copper, and lead being most common. Samples from three of the test pits also contained elevated levels of cyanide. Of the 14 test pit samples submitted for metals analysis, only surface soils contained elevated levels of metals, indicating that the metals contamination is almost exclusively on the ground surface. The metal detected at the highest concentrations at SWMU 1d is lead, with one sample containing 2,030 µg/g. The elevated concentrations of lead in the surface soils are probably related to the presence of lead aside as a constituent of the propellants that are burned. Elevated levels of beryllium above the proposed Subpart S action level of 0.2 µg/g were present in two of the test pits. The deep soil boring SB-01-005 showed some detections of selenium above background throughout the boring although, as discussed in Section 5.3, this is not necessarily related to SWMU 1d activities since no selenium above the background threshold was detected in the test pit soil samples.

5.6.3.2. Six of the seven surface soil samples from the test pits contained explosive compounds, with 2,4-DNT detected in all six samples. Concentrations of this isomer in five of the samples exceeded the proposed health-based criterion of 2.2 7 µg/g for 2,4-DNT compounds in soil. Of the two soil samples submitted for explosive reactivity, neither was explosively reactive. No explosive compounds were detected in the subsurface soils.

5.6.3.3. One sample from SWMU 1d (EP-01-088), which was collected from the surface, was submitted for dioxin/furan analysis. No dioxins or furans were detected. All samples were analyzed for the major anions, and elevated levels of nitrates/nitrites, total phosphates, sulfates, and chloride were present in all of the test pits. Unlike the metals and explosives detected, elevated levels of these anions were found in both surface and subsurface soils. Concentrations of nitrates/nitrites, total phosphates, and chloride above the background thresholds were detected to about 40 feet bgs in the deep soil boring. Although the levels of these anions are above the upper thresholds determined for background conditions, they could be due to naturally-occurring conditions in the deeper soils.

5.6.3.4. Volatile and semi-volatile organic compounds were not detected in any of the collected samples from SWMU 1d, with the exception of butyl phthalate which was detected in the surface soil sample from test pit EP-01-088. This result is thought to be a product of laboratory contamination, and not an indication of a contaminant release.

5.6.3.5. In general, metals and explosive chemical contamination is present at SWMU 1d in the surface soils, and probably originates from the open burning of propellants in the burn pans. The contamination found at SWMU 1d does not persist at depth, and, in fact, is not present below the top 1 to 2 feet. Even though the groundwater underlying SWMU 1d was not sampled, the depth to the water table here makes it unlikely that groundwater contamination has occurred due to activities at the Propellant Burn Pans. The generally fine-grained and alkaline nature of the site soils, combined with the semi-arid climate, also help to decrease the movement of the contaminants present. The lack of any organics, explosives or elevated metals not thought to be related to background conditions in the soil boring indicates that the levels of contamination present here do not persist at depth.

5.6.4. Recommendation

5.6.4.1. Based on the results of the Phase I RFI sampling at the Propellant Burn Pans, there is evidence that demilitarization activities at this SWMU have released metals and explosive compounds to the surrounding surface soils. It is recommended that this SWMU be included in the Phase II evaluations for this reason. Specific recommendations for a Phase II evaluation are included in Section 6.0 of this report.

5.7. BOX ELDER WASH

5.7.1. Site Description and Waste Generation

5.7.1.1. Box Elder Wash is a dry drainage channel that runs from the foothills of the Stansbury Mountains to the west across the TEAD-N facility. It was included in the Phase I RFI sampling activities because during heavy precipitation or snow-melt events it receives surface water runoff from the OB/OD Area. There are no waste-producing activities associated with the wash itself. Figure 3-1 shows the location of Box Elder Wash with respect to the TEAD-N facility. Figure 5-2-1 shows the locations of the various SWMUs at the OB/OD Area, and their relation to Box Elder Wash.

5.7.2. Previous Sampling and Phase I RFI Sampling and Results

5.7.2.1. Previous Investigations. With one possible exception. no previous sampling activities are known to have been conducted in Box Elder Wash. One surface soil sample may have been collected from the wash during the U.S. Army Environmental Hygiene Agency (AEHA) Phase IV study at the OB/OD Area. The results for this sample, listed as the "downgradient stream sediment" sample, showed minor concentrations of several metals in the totals analyses, but at levels that could be considered naturally occurring in the native soil. This soil sample was probably collected from a location downstream of the OB/OD Area, but available documents do not show the exact location.

5.7.2.2. Phase I RFI Sampling and Results. To evaluate whether the OB/OD activities have released contaminants that might be transported by surface water into and along Box Elder Wash, eight surface soil samples were collected from the wash. Samples were collected from locations upstream, adjacent to, and downstream from the OB/OD Area SWMUs. All samples were analyzed for total metals, cyanide, explosives, and anions.

5.7.2.3. Figure 5-7-1 shows the concentrations of metals, cyanide, and anions that were detected, and the sampling locations along Bcx Elder Wash. Table 5-7, included at the end of Section 5.0, contains a summary of the detected contaminants.

5.7.3. Contamination Assessment

5.7.3.1. Based on the results of the Phase I RFI sampling along Box Elder Wash, no soil contamination has occurred. The contaminants present at the various SWMUs at the OB/OD Area do not appear to have been transported by surface water runoff into or along this wash. The only metals detected above the background thresholds were cadmium and copper, and the concentrations of these metals are just slightly above the upper thresholds for background. No explosives were detected. The concentrations of major anions in some of the samples, while above the statistically-generated background values for facility soils, are not considered a concern here in the absence of other contaminants. Even though no sub-surface samples were collected in Box Elder Wash, it is considered unlikely that contaminants originating from surface water runoff would penetrate to the sub-surface without affecting the surface soils.

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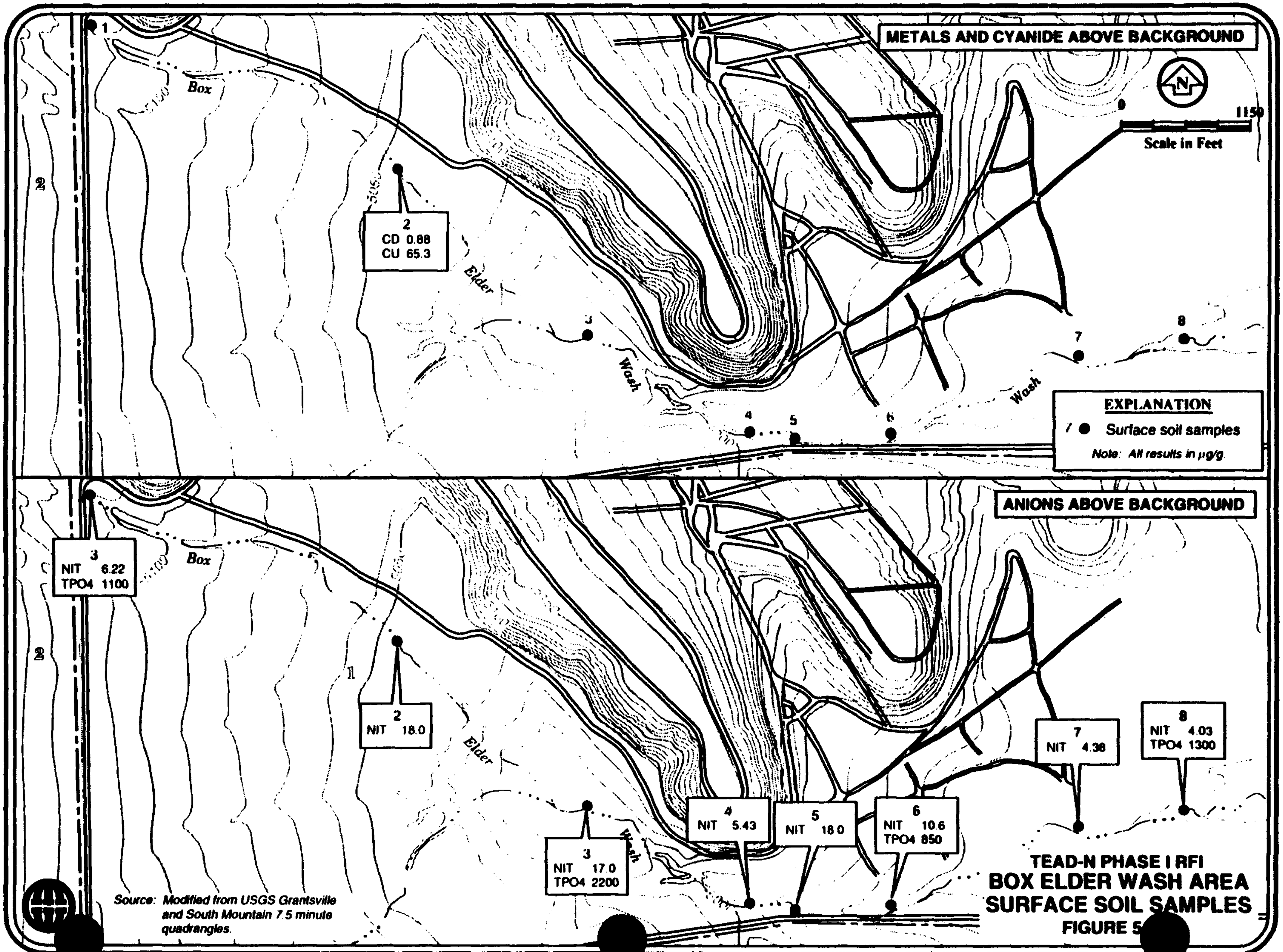


TEAD-N PHASE I RFI
BOX ELDER WASH AREA
SURFACE SOIL SAMPLES
FIGURE 5

5.7.4. Recommendation

5.7.4.1. Since no significant release of contaminants has occurred into or along Box Elder Wash from the OB/OD Area activities, no further action is recommended here.

5.8 SAND BLAST AREA (SWMU 4)

5.8.1. Site Description and Waste Generation

5.8.1.1. Three sand blast areas are present in the maintenance area of TEAD-N. They are located in Buildings 615, 617, and 600, where sand blast media are reused until they lose their effectiveness. The spent media have the consistency of a fine dust and are collected for temporary storage in dumpsters prior to removal by a hazardous waste contractor for off-site disposal. There are three types of sand blast media used at TEAD-N: steel grit, ground walnut shells, and glass beads.

5.8.2. Site Conditions

5.8.2.1. The used sand blast media are directed into sealed dumpsters that lie outside the buildings. Since the dumpsters are placed on concrete slabs that are surrounded by asphalt parking lots and roadways, there is little or no exposed soil in the immediate vicinity of these dumpsters. Silty gravels of the Abela Series are present beneath the maintenance area (USSCS, 1991). Depth to bedrock is estimated to be greater than 500 feet, and the depth to groundwater is approximately 300 feet bgs. Groundwater flow beneath the maintenance area is toward the northwest. Surface water runoff patterns have been modified locally in the maintenance area by construction of parking lots and drainage ditches. However, the topography beneath the maintenance area slopes toward the northwest.

5.8.3. Previous Sampling and Phase I RFI Sampling and Results

5.8.3.1. Previous Sampling. Previous sampling of this SWMU is limited to analyses of used sand blast media samples collected by the TEAD Environmental Management Office personnel. The results of their sampling found that the spent steel dust contained barium, cadmium, lead, and nickel but no concentrations were above the threshold for characterizing a waste as hazardous according to the EP Toxicity analysis. The spent walnut dust also contained barium, cadmium, chromium, and lead. Total lead and chromium concentrations were 17,000 μg/g (1.7 percent) and 3,000 μg/g (0.3 percent), respectively. EP Toxicity levels of

chromium in the walnut dust exceeded the threshold for characterizing a waste as hazardous (greater than 5 mg/L). No analytical results of the spent glass beads were available.

5.8.3.2. Phase I RFI Sampling and Results. Two samples were taken from near each of the spent sand blast media collection points (six total). Nearby surface soils and surface water runoff pathways were sampled and all samples were analyzed for VOCs, SVOCs, and metals. Analytical results from these samples are shown in Figure 5-8-1. Sampling results are also summarized in Table 5-8 located at the end of Section 5.0.

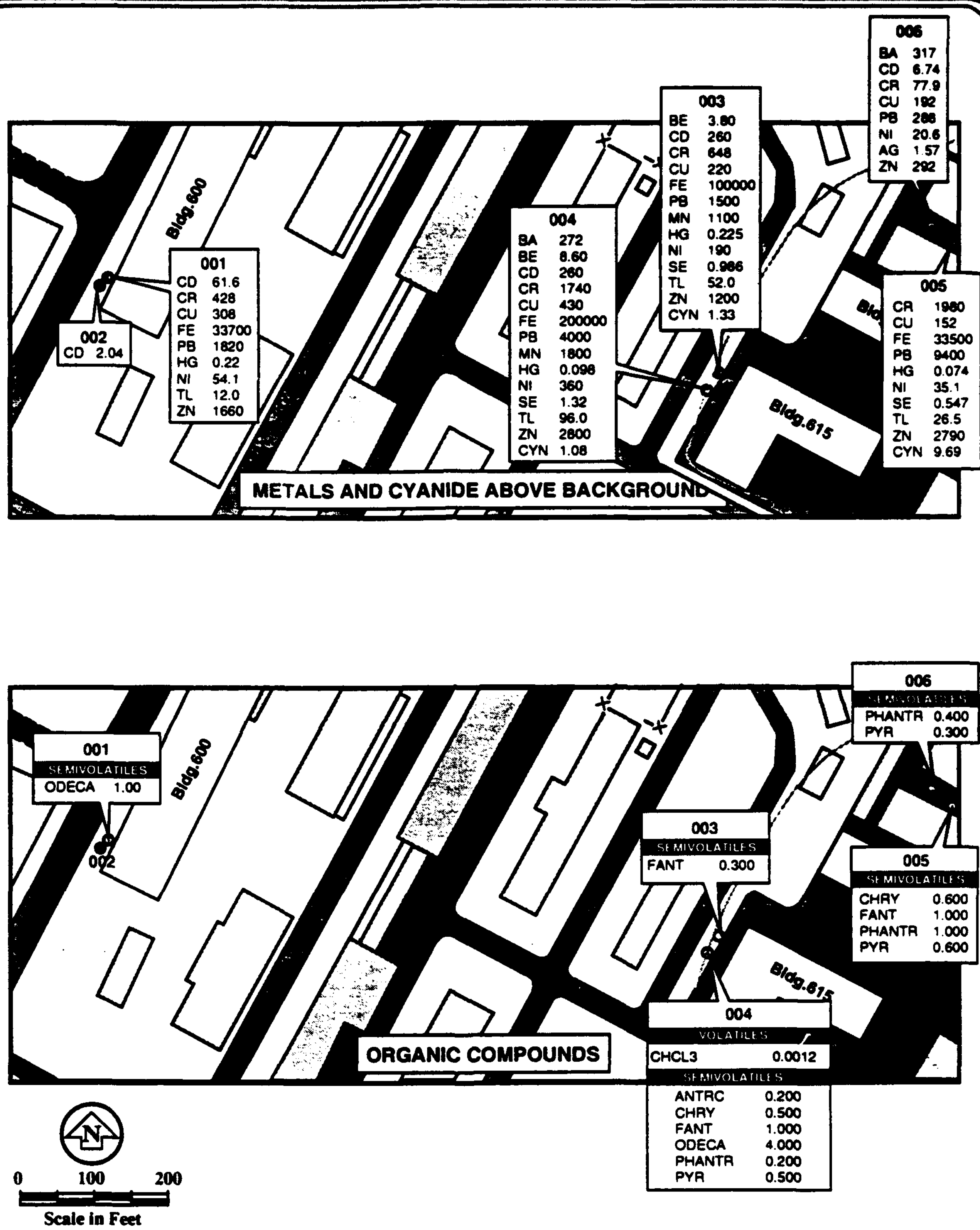
5.8.4. Contamination Assessment

5.8.4.1. Based on the results of the Phase I RFI sampling program, it appears that contaminants have been released to the surface soils in the vicinity of the spent sand blast media collection points. Concentrations of metals above background levels were detected in all six of the samples collected. Metals detected frequently included cadmium, which ranged up to 260 μg/g, lead which ranged up to 9,400 μg/g, and barium which was present in concentrations up to 317 μg/g. Several other metals were also detected, and cyanide was detected in concentrations up to 9.69 μg/g. Proposed Subpart S soil action levels for beryllium and cadmium were exceeded in four of the six samples.

5.8.4.2. Organic compounds were also present in several of the samples collected. VOCs were limited to one detection of chloroform at 0.0012 μg/g which is well below the proposed Subpart S action level of 100 μg/g. SVOCs were detected in five samples of six soil samples. These were mostly polyaromatic hydrocarbons which are a likely constituent in the paints present in the spent sand blast media. Concentrations of the polyaromatic hydrocarbons ranged from 0.2 μg/g to 4 μg/g. In addition, five of six soil samples showed trace amounts of toluene, phthalates, and/or TCF, but these results are attributed to probable lab contamination. The toluene results are qualified as "Not Detected" due to associated method blank contamination.

5.8.5. Recommendation

5.8.5.1. Based on the results of the Phase I RFI sampling, it appears that the used sand blast media collection points are a source of contaminants released to the environment. For this reason, it is recommended that this SWMU be included in future Phase II evaluation activities. Specific recommendations for the Phase II evaluations are included in Section 6.0.



Source: *Modified from USGS Tooele 7.5 minute quadrangle.*

EXPLANATION

004 ● Surface soil sample location
■ Paved areas
□ Building

Note: all results in µg/g.

TEAD-N PHASE I RFI
SANDBLAST AREAS (SWMU 4) SURFACE SOIL SAMPLES
FIGURE 5-8-1

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5.9 SEWAGE LAGOONS (SWMU 14)

5.9.1. Site Description and Waste Generation

5.9.1.1. The Sewage Lagoons are located on the west side of the maintenance area of TEAD-N approximately 2,000 feet northwest and downgradient of the sanitary landfill (Figure 1-3). Prior to 1974, sewage was discharged to evaporation lagoons located in the landfill and to the arroyo immediately south of the landfill. In 1974, the existing sewage lagoons were constructed and began receiving wastewater from housing and warehouses in the maintenance and administrative areas. Only domestic sewage has been discharged to these lagoons since their construction (Ware, 1992).

5.9.1.2. Each lagoon covers approximately 7.4 acres (617 feet by 518 feet) and is designed to contain wastewater up to 4 feet deep (EA, 1988). The capacity of each lagoon is approximately 9 million gallons and the average daily flow rate to the lagoons is approximately 90,000 gallons per day (ERTEC, 1982).

5.9.2. Site Conditions

5.9.2.1. Previous investigations in this vicinity indicate that soils consist of coarse-grained sands and gravels interlayered with fine-grained silts and clays (JMM, 1988). The depth to bedrock in the lagoon area is estimated at 1,125 feet bgs (ERTEC, 1982). Regional groundwater is approximately 200 feet bgs, and the direction of groundwater flow is toward the northwest (JMM, 1988).

5.9.2.2. The lagoons were designed so that the first lagoon initially fills with wastewater and then discharges to the second lagoon. Under normal operating conditions when evaporation rates are high (spring, summer, and fall), only the first lagoon remains filled, and the second lagoon receives discharge from the first lagoon only during winter months. Although the lagoon bottoms and lower portions of the perimeter berms are lined with native clay, the liner is suspected of leaking (Fox, 1989). In addition, wastewater in the first lagoon often rises above the clay liner, allowing wastewater to discharge into the unlined portions of the perimeter berms. JMM (1988) estimated that 60 to 70 percent of the effluent percolates into the underlying soils.

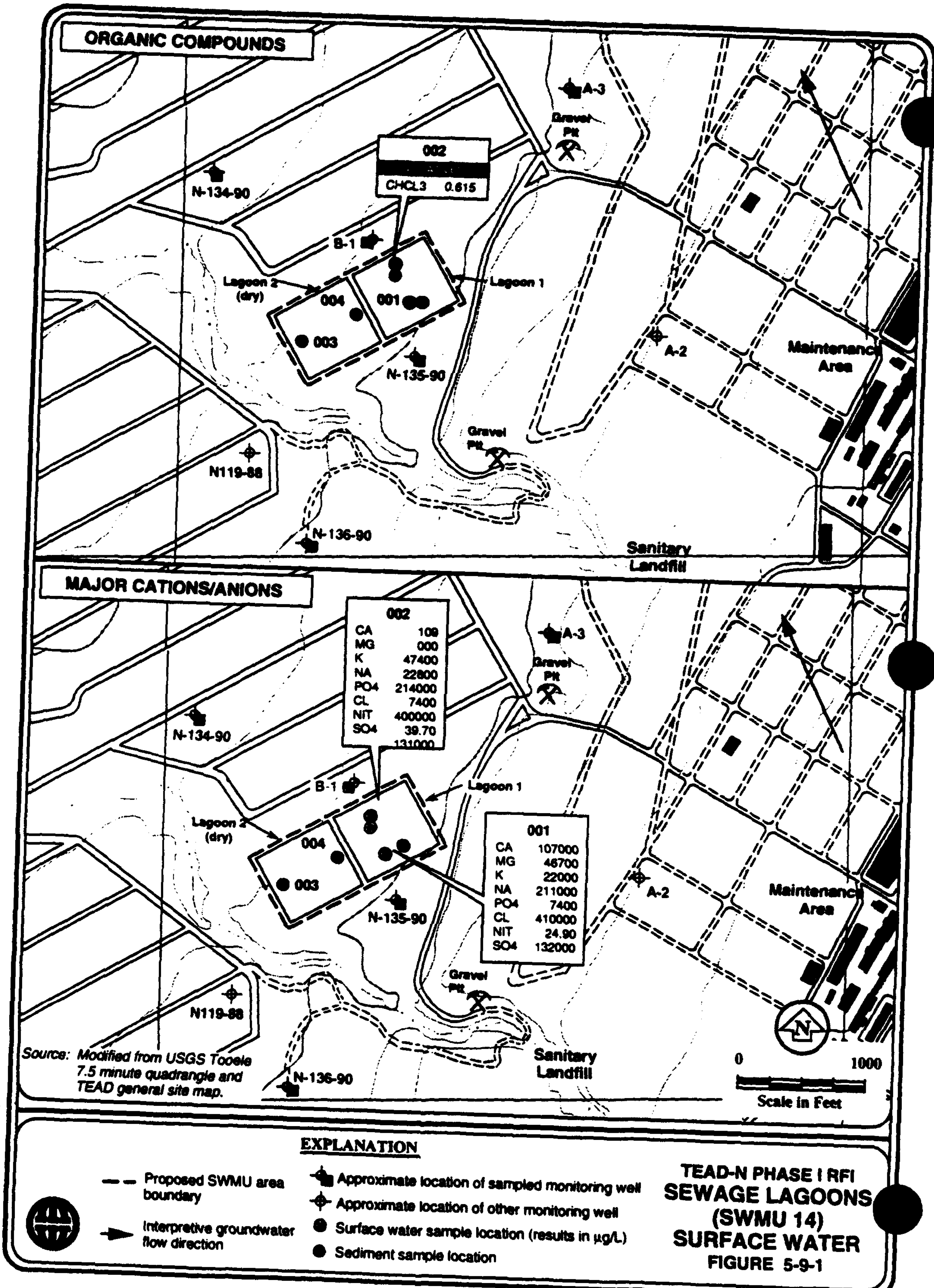
5.9.3. Previous Sampling and Phase I RFI Sampling and Results

5.9.3.1. Previous Sampling. Previous investigations (JMM, 1988; Weston, 1990; and ERTEC, 1982) indicated the presence of VOCs and several metals in monitoring wells both upgradient and downgradient of the sewage lagoons. Monitoring wells immediately upgradient of the sewage lagoons are downgradient of the Sanitary Landfill (SWMUs 12 and 15) and crossgradient from the closed industrial wastewater lagoon outfall ditches. Both of these areas have been sources of groundwater contamination and are known release units under the Post Closure Permit that will be or have been investigated separately.

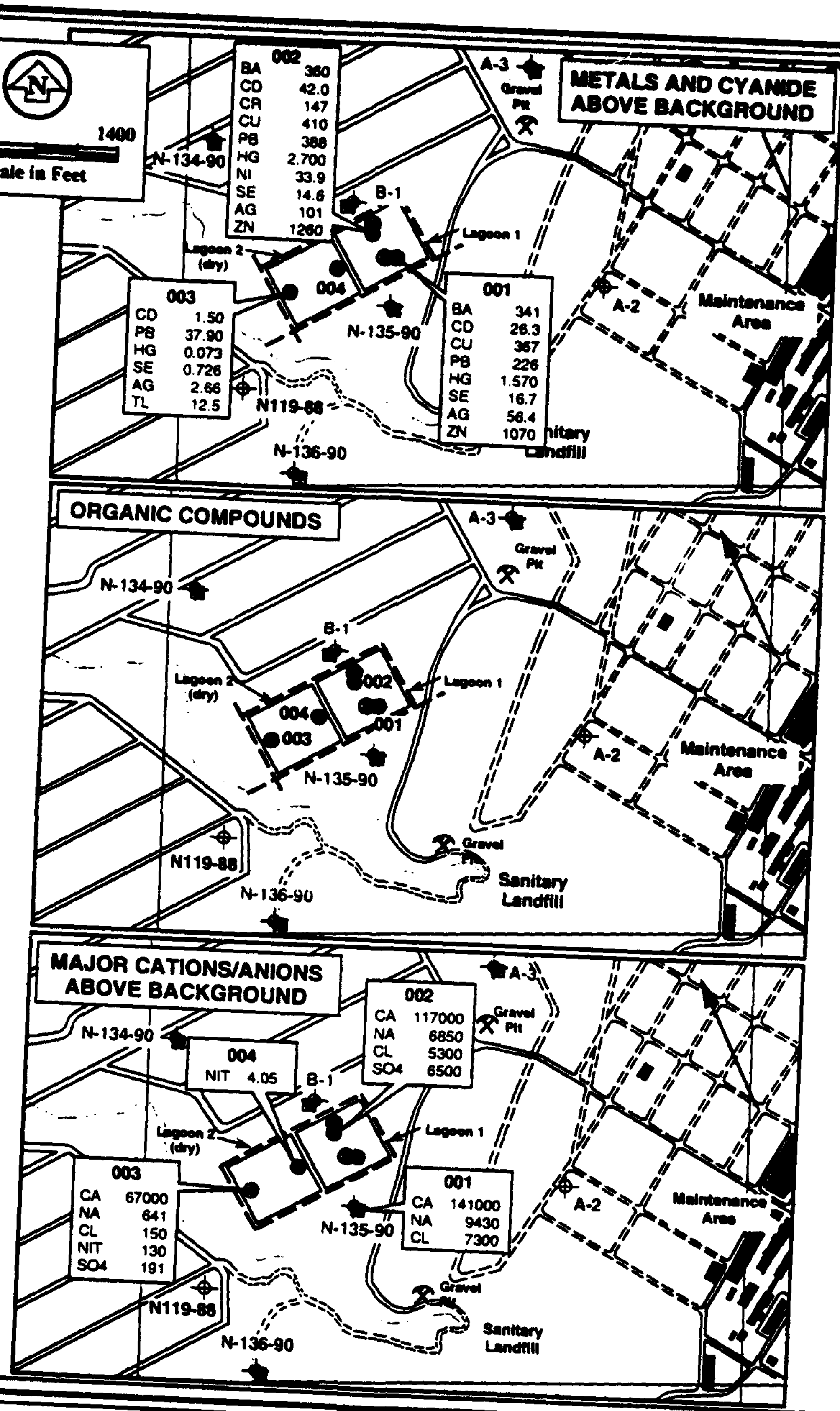
5.9.3.2. A groundwater sample collected by ERTEC (1982) from monitoring well N-4 had elevated concentrations of nitrate, nitrite, nickel, zinc, chloride, fluoride, sulfate, and sodium in addition to detectable levels of trichloroethylene and gross beta radiation. Although the exact location of this well is not known, a review of the ERTEC report indicates it lies between the sanitary landfill and the sewage lagoons. Trichloroethylene was also found both upgradient and downgradient of sewage Lagoon 1. In upgradient monitoring wells N-119-88 and A-2, concentrations were 18.4 µg/L and 3.9 µg/L, respectively. In downgradient wells B-1 and B-4 (located approximately 3300 feet to the north), trichloroethylene concentrations were 13 µg/L and 22 µg/L, respectively (JMM, 1988). Due to the upgradient presence of trichloroethylene, at about the same concentrations as those downgradient, the sewage lagoons are not believed to be a source of this compound. Other VOCs, including 1,1,1-trichloroethane, xylene, benzene, trans-1,2-dichloroethene were detected in monitoring wells upgradient of the lagoons, but not in monitoring wells downgradient of the lagoons.

5.9.3.3. Phase I RFI Sampling and Results. The objective of investigating this SWMU was to determine if the sewage lagoons are contributing contaminants to the groundwater beneath this portion of TEAD-N. Two surface water samples and two sediment samples were collected from the north lagoon and two sediment samples were taken from the south lagoon (as the lagoon was dry). Groundwater was sampled from wells N-134-90, N-135-90, N-136-90, A-3, and B-1. All samples were analyzed for VOCs, SVOCs, TRPH, metals, and anions.

5.9.3.4. Figures 5-9-1, 5-9-2, 5-9-3, and 5-9-4 show the concentrations of cations, anions, metals, and organic compounds that were detected in the Sewage Lagoon surface water, sediment, and two rounds of groundwater samples. In addition, Figure 5-9-5 shows Stiff diagrams for sewage lagoon surface water and groundwater that are representative of water chemistry based on the July, 1992 and February, 1993 sampling results. Analytical results



PROJECT NO. 2942.0140



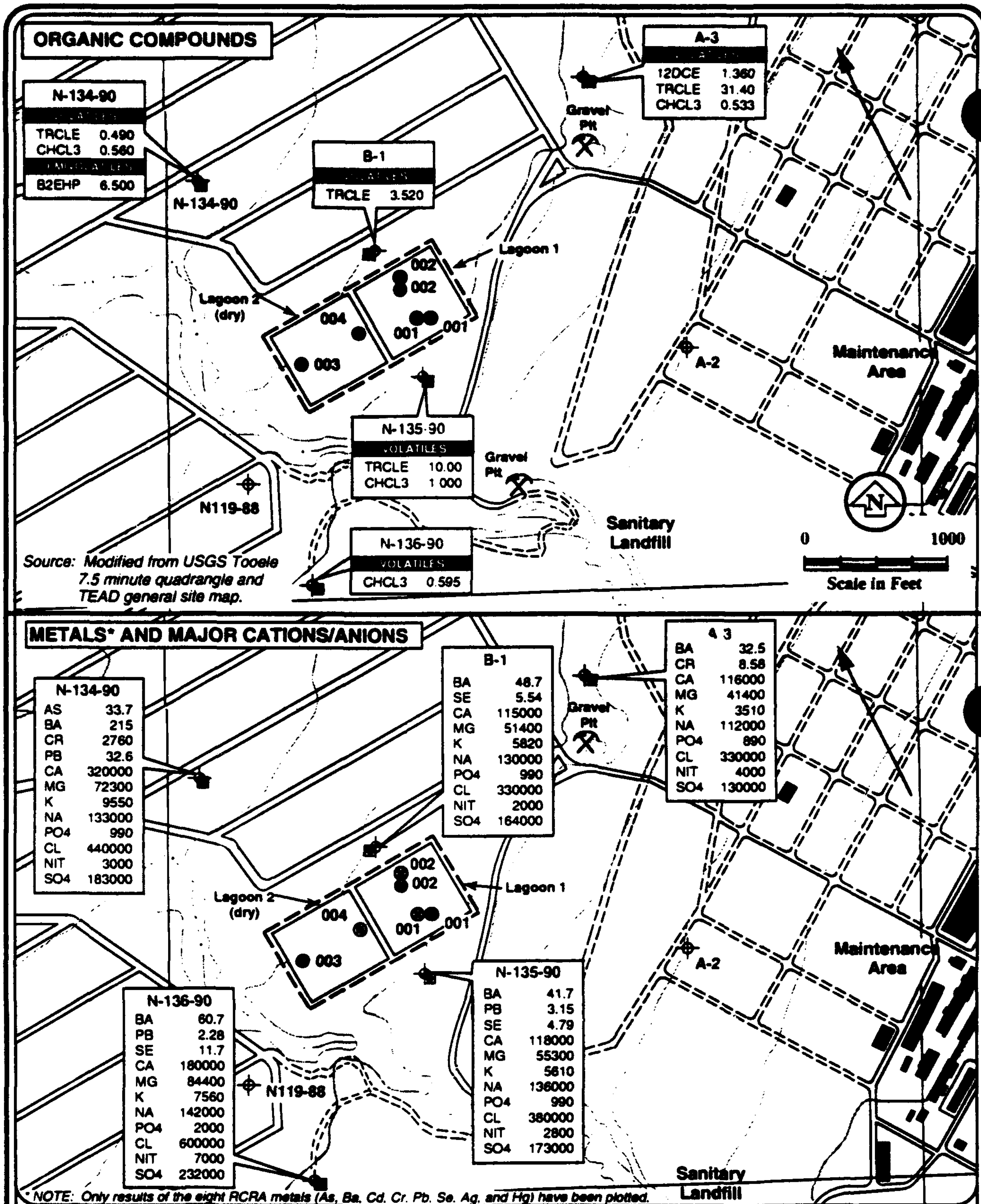
Source: Modified from USGS Tooele 7.5 minute quadrangle and TEAD general site map.

EXPLANATION

- Proposed SWMU area boundary
- Interpretive groundwater flow direction
- Approximate location of sampled monitoring well
- Approximate location of other monitoring well
- Surface water sample location (results in µg/L)
- Sediment sample location

PROJECT NO. 2942.0140

TEAD-N PHASE I RFI
SEWAGE LAGOONS (SWMU 14) SEDIMENT SAMPLES
FIGURE 5-9-2



EXPLANATION

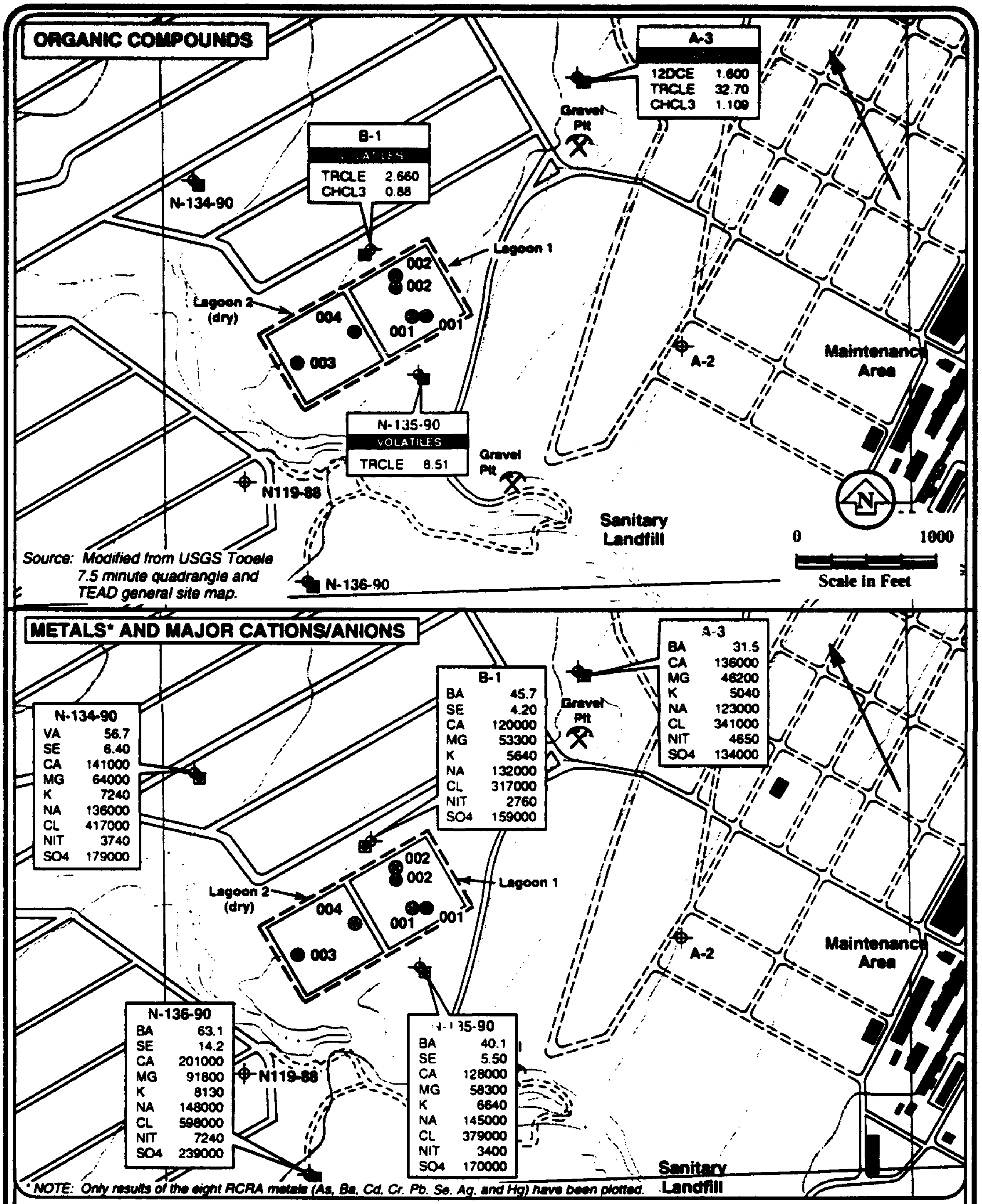
- Proposed SWMU area boundary
- Interpretive groundwater flow direction
- Approximate location of sampled monitoring well
- Approximate location of other monitoring well
- Surface water sample location (results in µg/L)
- Sediment sample location

TEAD-N PHASE I RFI

SEWAGE LAGOONS (SWMU 14) GROUNDWATER JULY 1992

FIGURE 5-9-3

PROJECT NO. 2942.0140

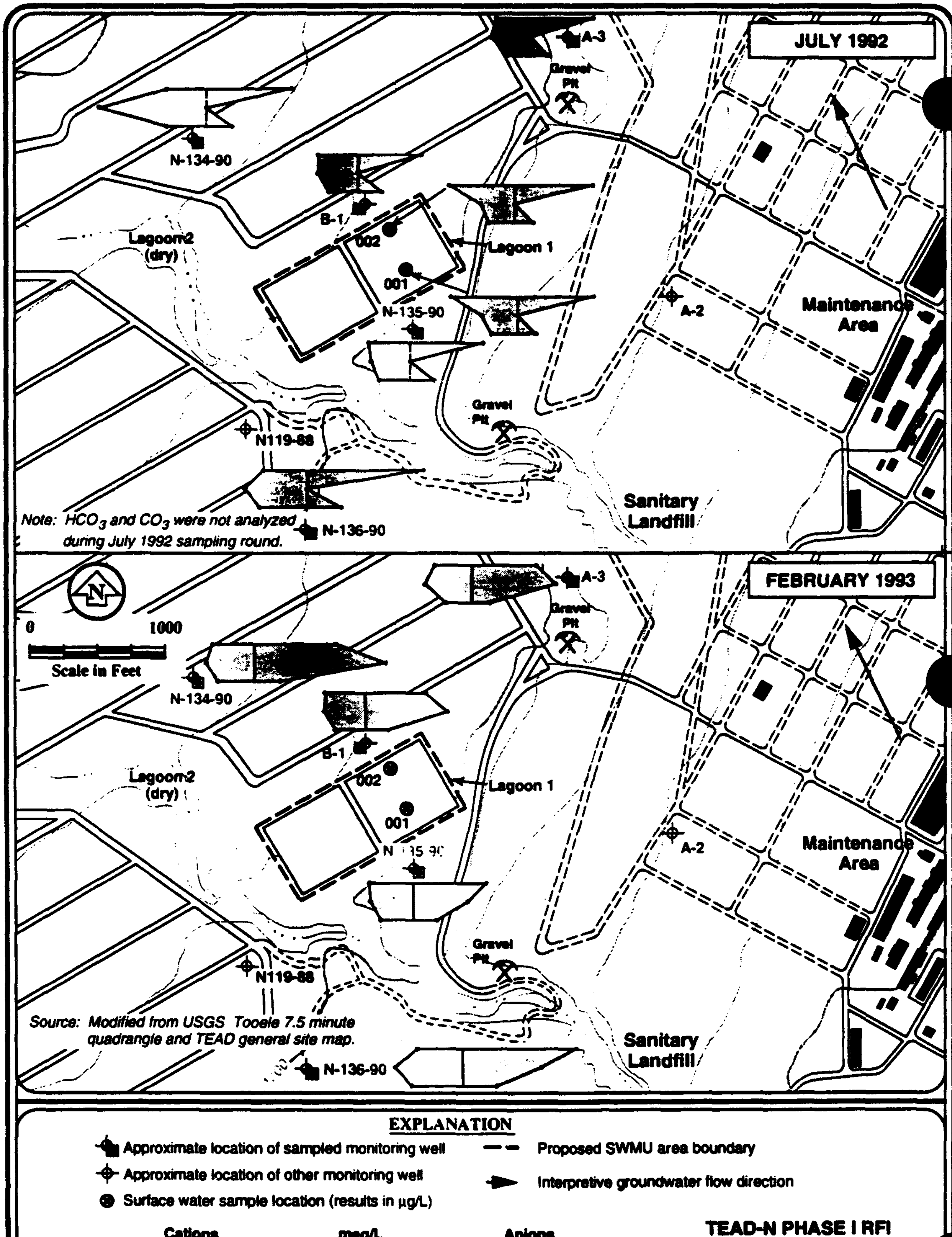


EXPLANATION

- Proposed SWMU area boundary
- Interpretive groundwater flow direction
- Approximate location of sampled monitoring well
- Approximate location of other monitoring well
- Surface water sample location (results in μg/L)
- Sediment sample location

TEAD-N PHASE I RFI
SEWAGE LAGOONS (SWMU 14)
GROUNDWATER
FEBRUARY 1993
FIGURE 5-9-4

PROJECT NO. 2942.0140



TEAD-N PHASE I RFI
SEWAGE LAGOONS (SWMU 14) STIFF PLOTS
FIGURE 5-9-5

PROJECT NO. 2942.0140

of the Sewage Lagoon surface water identified one organic compound (chloroform), and elevated levels of cations and anions. None of these compounds exceeded maximum contaminant levels (MCLs) for drinking water. Sewage Lagoon sediment sample analyses contained two tentatively identified SVOCs, elevated cations and anions, and detectable concentrations of heavy metals. Metals detected in the sediment samples included barium, cadmium, lead, mercury, chromium, selenium, silver, nickel, zinc, and copper. Both upgradient and downgradient groundwater samples contained organic compounds, elevated anions and cations, and detecatable concentrations of metals, including arsenic, barium, chromium, lead, and selenium. Table 5-9, included at the end of Section 5.0, contains a summary of the contaminants that were detected.

5.9.4. Contaminant Assessment

5.9.4.1. Based on the results of the Phase I RFI sampling program, it is apparent from the Stiff diagrams (which represent water chemistry), groundwater here is a calcium chloride type, whereas Sewage Lagoon surface water is of a sodium chloride type. Groundwater from wells adjacent to the Sewage Lagoons (N-135-90 and B-1) has been slightly affected by an increase in sodium content as compared to the other groundwater from upgradient wells (Figure 5-9-5). With the exception of well N-134-90, the concentrations of the major cations and anions showed a slight increase from July, 1992 to February, 1993.

5.9.4.2. Sewage Lagoon wastewater does not appear to be a contributing source of organic compounds to groundwater. Chloroform was detected at or near the detection limit in sewage wastewater but was not detected in sediments. Well N-135-90 (adjacent to the Sewage Lagoons) contained 1 µg/L chloroform in July, 1992, but none during the February, 1993 sampling. Heptadecane was tentatively identified as a SVOC in both the Sewage Lagoon wastewater and sediment but was not identified in any of the groundwater samples. Cyclohexane was also tentatively identified as a SVOC in one of the sediment samples. Other organic compounds detected in groundwater in July, 1992 include the VOCs 1,2-dichloroethylene, trichloroethylene, and SVOCs bis (2-ethylhexyl) phthalate, none of which were identified in any of the Sewage Lagoon surface water or sediment samples at that time. The same VOCs were detected during the second sampling round but, except for well A-3, in lesser concentrations. The presence of these VOCs, specifically trichloroethylene and chloroform, in the upgradient wells (N-136-90 and N-135-90) and cross-gradient well (Well A-3) in equal or greater concentrations than the downgradient wells (B-1 and N-134-90) implies that the source of these VOCs is upgradient of the Sewage Lagoons, possibly the landfill.

5.9.4.3. The metals barium (up to 215 μg/L) and selenium (up to 14.2 μg/L) were found in most of the sampled wells, both in July, 1992 and in February, 1993. Their even concentration distribution ground the Sewage Lagoons (i.e., both upgradient and downgradient) also implies another source. Several metals (see Figure 5-9-2) were found in three of four collected sediment samples, though these metals do not appear to be impacting the local groundwater at this time. The downgradient well N-134-90 showed elevated levels of arsenic, barium, lead, and chromium, which was anomalously high at 2,760 μg/L, during the July, 1992 sampling round. These metals concentrations were not detected during the February, 1993 sampling, however.

5.9.5. Recommendation

5.9.5.1. Based on the results of the Phase I RFI sampling, there is evidence that the groundwater chemistry is being affected by recharging wastewater, although the Sewage Lagoons do not appear to be contributing organic compounds or elevated metals to groundwater. Metals in the lagoon sediments may migrate into underlying soils or groundwater. Since the soils underlying the Sewage Lagoons were not investigated during Phase I activities, it is recommended that SWMU 14 be included in future Phase II investigations, including additional sampling, with a focus on the soils under the lagoon liner. Specific recommendations are included in Section 6.0.

5.10 AED DEMILITARIZATION TEST FACILITY (SWMU 19)

5.10.1. Site Description and Waste Generation

5.10.1.1. The Ammunition and Engineering Directorate (AED) Demilitarization Test Facility is located southwest of the ordnance area in a relatively undeveloped portion of TEAD-N. The facility was constructed in 1973 and is composed of several small buildings, sheds, and a series of protective revetments behind which tests are conducted.

5.10.1.2. Operations conducted at the facility include experimental or pilot plant-type tests intended to determine if new design demilitarization equipment is functional and to develop procedures, techniques, or additional equipment to implement the new design equipment (EA, 1988). Live ammunition and propellants are frequently used during the testing. In addition to demilitarization equipment tests, propagation tests, barricade testing for

explosive lines, and open burning in pans have been conducted at this facility (E. C. Jordan, 1989). Actual tests are conducted intermittently during approximately 30 days each year (EA, 1988).

5.10.2. Site Conditions

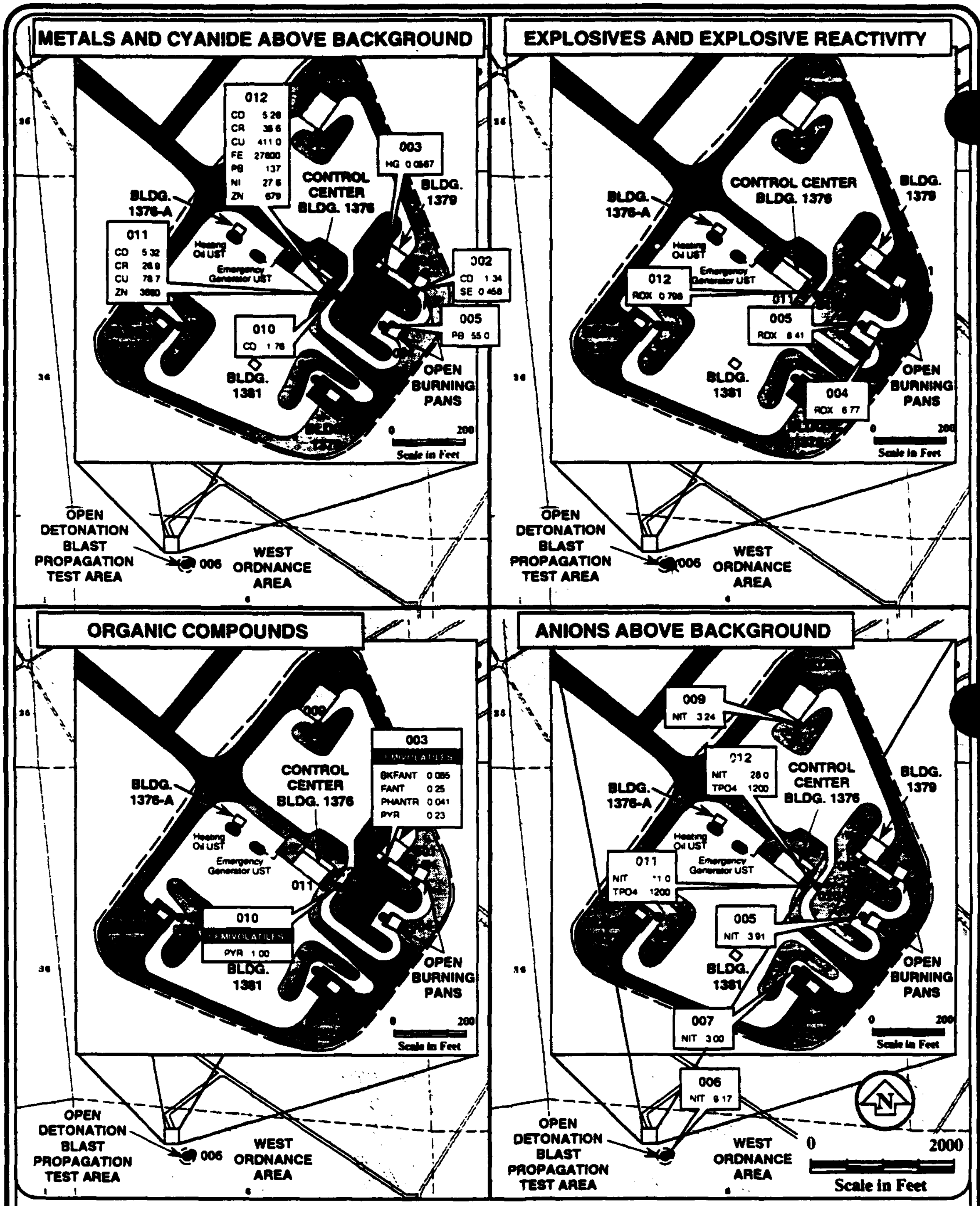
5.10.2.1. Soils underlying the facility consist of sands and silty sands of the Berent-Hiko Peak Complex (USSCS, 1991). The approximate depth to bedrock is 250 feet bgs (ERTEC, 1982). The approximate depth of the water table is 630 feet bgs, and the direction of groundwater flow is toward the north northwest (JMM, 1988).

5.10.3. Previous Sampling and Phase I RFI Sampling and Results

5.10.3.1. Because there were no previous investigations conducted at the AED Demilitarization Test Facility, analytical data regarding this facility are limited to those generated during the Phase I RFI. Twelve surface soil samples were sited to provide general coverage of the facility and focus on the active areas. All samples were analyzed for total metals, explosives, VOCs, SVOCs, and anions. In addition, two samples were analyzed for explosive reactivity. The results of these analyses are included in Figure 5-10-1. Table 5-10, included at the end of this section, also summarizes these results.

5.10.4. Contaminant Assessment

5.10.4.1. Based on the results of the Phase I RFI sampling program, it appears that there has been a release of metals, the explosive compound RDX, and several SVOCs. Also, elevated levels of nitrate are present in the surface soils. Minor amounts of phthalates and TCF were found in three of the soil samples, but these are probably a result of lab contamination, and have not been included in the contamination assessment for SWMU 19. None of the detected analytes exceeded applicable draft Subpart S action levels, though several do not have action levels proposed at this time. The levels of metals and nitrate contamination found are low compared to RFI background threshold values with many detections less than two times the established threshold value. The detections of SVOCs are all 1 μg/g or less.



Source: Modified from USGS Grantsville 7.5 minute quadrangle. *Note: All results in µg/g.*

EXPLANATION

- Proposed SWMU area boundary
- Building
- Roadways
- Earthen revetment
- 007 ● Surface soil sample location
- Underground storage tank
- Explosive reactivity sample location

TEAD-N PHASE I RFI
AED DEMILITARIZATION TEST FACILITY (SWMU 19)
SURFACE SOIL SAMPLES
FIGURE 5-10-1

PROJECT NO. 2942.0140

5.10.5. Recommendation

5.10.5.1. Because there is evidence that the testing operations at this SWMU have released contaminants to the environment, it is recommended that SWMU 19 be included in future Phase II evaluation activities. Specific recommendations are included in Section 6.0.

5.11 AED DEACTIVATION FURNACE SITE (SWMU 20)

5.11.1. Site Description and Waste Generation

5.11.1.1. The AED Deactivation Furnace Site is located southwest of the ordnance area along the road that links the AED Demilitarization Test Facility (SWMU 19) and the Bomb and Shell Reconditioning Building (SWMU 23). This site is used to test demilitarization procedures for various munitions and is not used as a production facility (Rhea. 1990). The facility has been active since about 1970, and is composed of two furnaces, a large air pollution control system, and a small storage building. The deactivation furnace in Building 1351 is a rotary kiln type that has been used for destruction of high explosive-filled projectiles (up to 155 mm), grenades, propellants, boosters, fuses, white phosphorus rockets, and bulk explosives (EA, 1988). The flashing furnace was added to the AED Deactivation Furnace Site in 1976 and is used for burning residuals remaining in munition shell casings after initial treatment in the deactivation furnace. During an upgrade in 1976, a shared air pollution control system was installed to treat stack emissions from both the deactivation and the flashing furnace (RHEA, 1990). The air pollution control equipment includes duct work from the two furnaces, an after burner, cyclone, gas cooler, baghouse, and wet scrubber.

5.11.1.2. After deactivation, all residual metal parts are certified as clean and sent to the Defense Reutilization and Marketing Office (DRMO) for salvage (EA, 1988). Baghouse dust and ash are collected in 55-gallon drums which are sealed and sent to the 90-Day Storage Yard (SWMU 28) pending analysis and disposal.

5.11.2. Site Conditions

5.11.2.1. Soils underlying the AED deactivation furnace are composed of sands and gravely sands of the Hiko Peak series (USSCS, 1991). The surface around both furnaces and support facilities are paved, and surface water drainage is toward the northeast. The approximate depth of groundwater is 620 feet bgs, and the direction of groundwater flow is toward the northeast (JMM, 1988).

5.11.3. Previous Sampling and Phase I RFI Sampling and Results

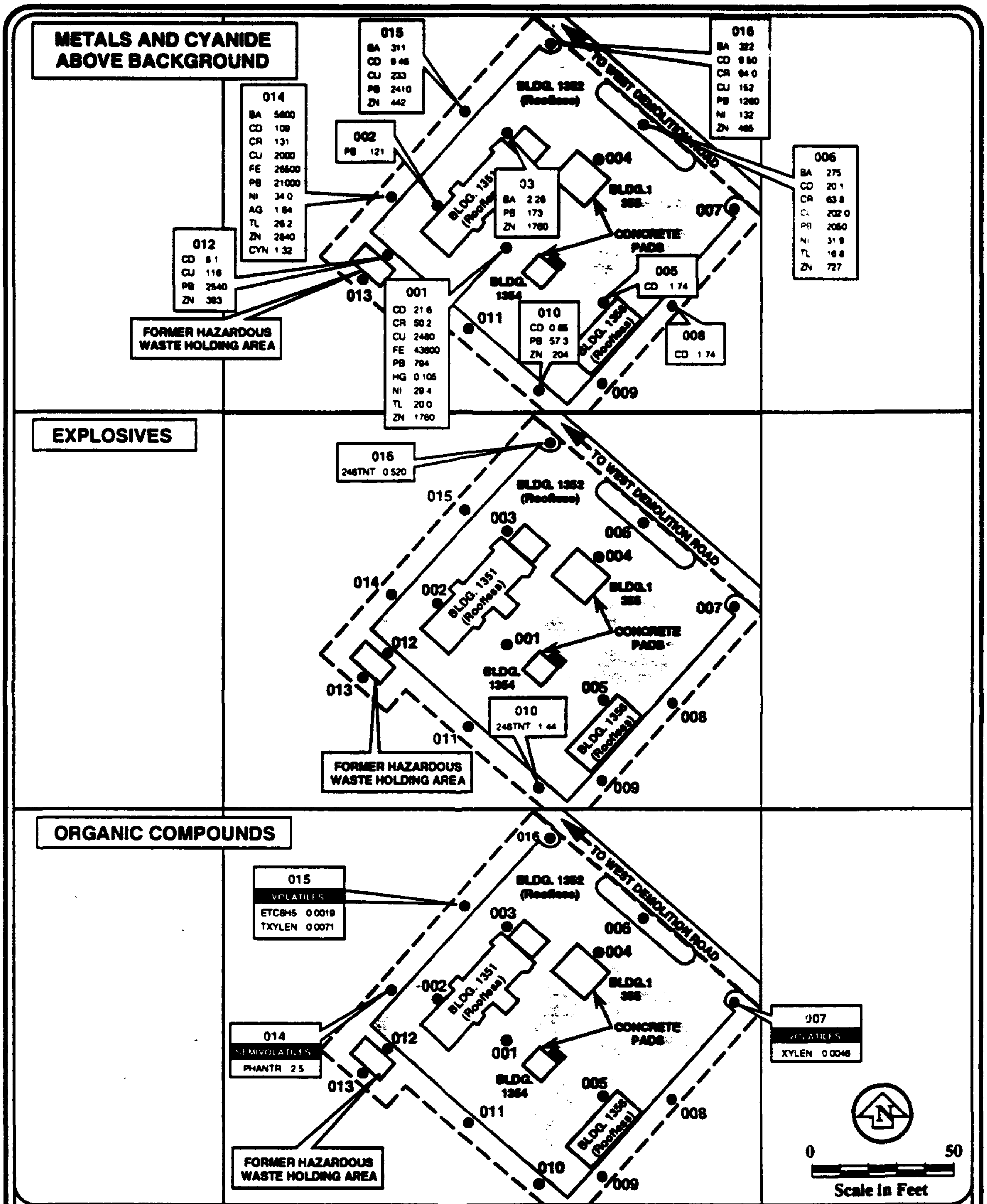
5.11.3.1. Previous Investigations. Previous investigations of the AED deactivation furnace site were limited to analysis of samples of baghouse dust and furnace residue. Although the baghouse dust was determined not to be a reactive waste, concentrations of lead, barium, and cadmium have been detected above the thresholds for characterizing a waste as hazardous based on EP Toxicity (AEHA, 1985). EP Toxicity concentrations of cadmium (206 mg/L) were detected in baghouse dust after an incineration test of 20 mm cartridges. Concentrations of lead in baghouse dust sampled after performing incineration tests of 4.62 mm and 30 caliber cartridges resulted in concentrations of 5.2 mg/L and 4.7 mg/L lead, respectively, in the EP Toxicity extract (the hazardous waste threshold is 5.0 mg/L). In addition to the elevated concentrations of lead and cadmium, one sample of furnace residue also contained 440 µg/g total thallium.

5.11.3.2. Phase I RFI Sampling and Results. Sixteen surface soil samples were collected from beneath the parking lot and around the perimeter of the AED Deactivation Furnace Site. All samples were analyzed for total metals, explosives, VOCs, and SVOCs. A visual summary of the analytical results is presented in Figure 5-11-1. A tabular summary is included in Table 5-11 at the end of this Section 5.0.

5.11.4. Contaminant Assessment

5.11.4.1. Based on the results of the Phase I RFI sampling, it appears that there has been a release of metals to the surface soils in the vicinity of the AED Deactivation Furnace Site. Concentrations of metals above the RFI background levels were detected in 10 of the 16 samples collected. Proposed Subpart S action levels were exceeded for the analytes cadmium, barium, and possibly certain thallium compounds. Lead, which is usually regulated on a site-by-site basis, was detected in concentrations up to 21,000 µg/g.

5.11.4.2. Detectable concentrations of explosives were present in two samples. These concentrations ranged up to 1.44 µg/g of 2,4,6-trinitrotoluene. Detectable concentrations of VOCs were limited to xylene, ethylbenzene and trichlorofluoromethane (TCF) which were detected at concentrations less than 0.010 µg/g in two samples and are below the proposed Subpart S action levels. Detections of TCF, as well as small amounts of toluene and dimethyl phthalate in two samples, are probably due to lab contamination, and have not been shown on Figure 5-11-1. Only one sample contained a detectable concentration of the SVOC



EXPLANATION

- — — Proposed SWMU area boundary
- 011 ● Surface soil sample location (results in µg/g)
- Paved area
- UST (No. 2 fuel oil tank)

TEAD-N PHASE I RFI
AED DEACTIVATION FURNACE SITE (SWMU 20) SURFACE SOIL SAMPLES
FIGURE 5-11-1

PROJECT NO. 2942.0140

phenanthrene, which is a polycyclic aromatic hydrocarbon whose presence is expected in burn residues. Principal contaminants at this site appear to be metals, which are probably due to stack emissions or spillage of baghouse dust or furnace ash.

5.11.5. Recommendation

5.11.5.1. Based on the results of the Phase I RFI sampling, it appears that the demilitarization test activities conducted at this SWMU have released contaminants to the environment. For this reason, it is recommended that this SWMU be included in future Phase II evaluation activities. Specific Phase II recommendations are included in Section 6.0 of this report.

5.12 DEACTIVATION FURNACE BUILDING (SWMU 21)

5.12.1. Site Description and Waste Generation

5.12.1.1. The Deactivation Furnace Building (Building 1320) is located in the southwestern portion of TEAD-N, near the southwestern perimeter of the igloo storage area, as shown in Figure 3-1 in Section 3.0. This site is an ammunition demilitarization production facility constructed about 1955. The facility consists of Building 1320, which contains a rotary kiln, and open staging areas around the outside of the building. The kiln, which is an auger-type feed, was installed in 1955 (NUS, 1987). The staging areas are partially asphalt-covered and partially covered with gravely soils. The facility is used for deactivating small arms ammunition (up to 20 millimeter), primers and fuses (RHEA, 1990). Air pollution control equipment, including a cyclone, gas cooler, and baghouse, was installed in approximately 1975 to treat emissions from the furnace (RHEA, 1990). Incinerator residue, which consists of ash and metal debris from the demilitarized munitions, collects at the south end of the furnace where it is loaded into 55-gallon drums that are placed on a concrete pad.

5.12.2. Site Conditions

5.12.2.1. Soils on which the Deactivation Furnace Building is located are composed of sands and silty sands of the Berent-Hiko Peak Complex (USSCS, 1991). The approximate depth to the groundwater table is 320 feet bgs, and the direction of groundwater flow is toward the north/northeast (JMM, 1988). The depth of the bedrock is approximately 500 feet bgs (ERTEC, 1982). The Deactivation Furnace Building is located approximately 1,200 feet

northwest of Box Elder Wash and surface water run-off from the site drains toward the northeast.

5.12.3. Previous Sampling and Phase I RFI Sampling and Results

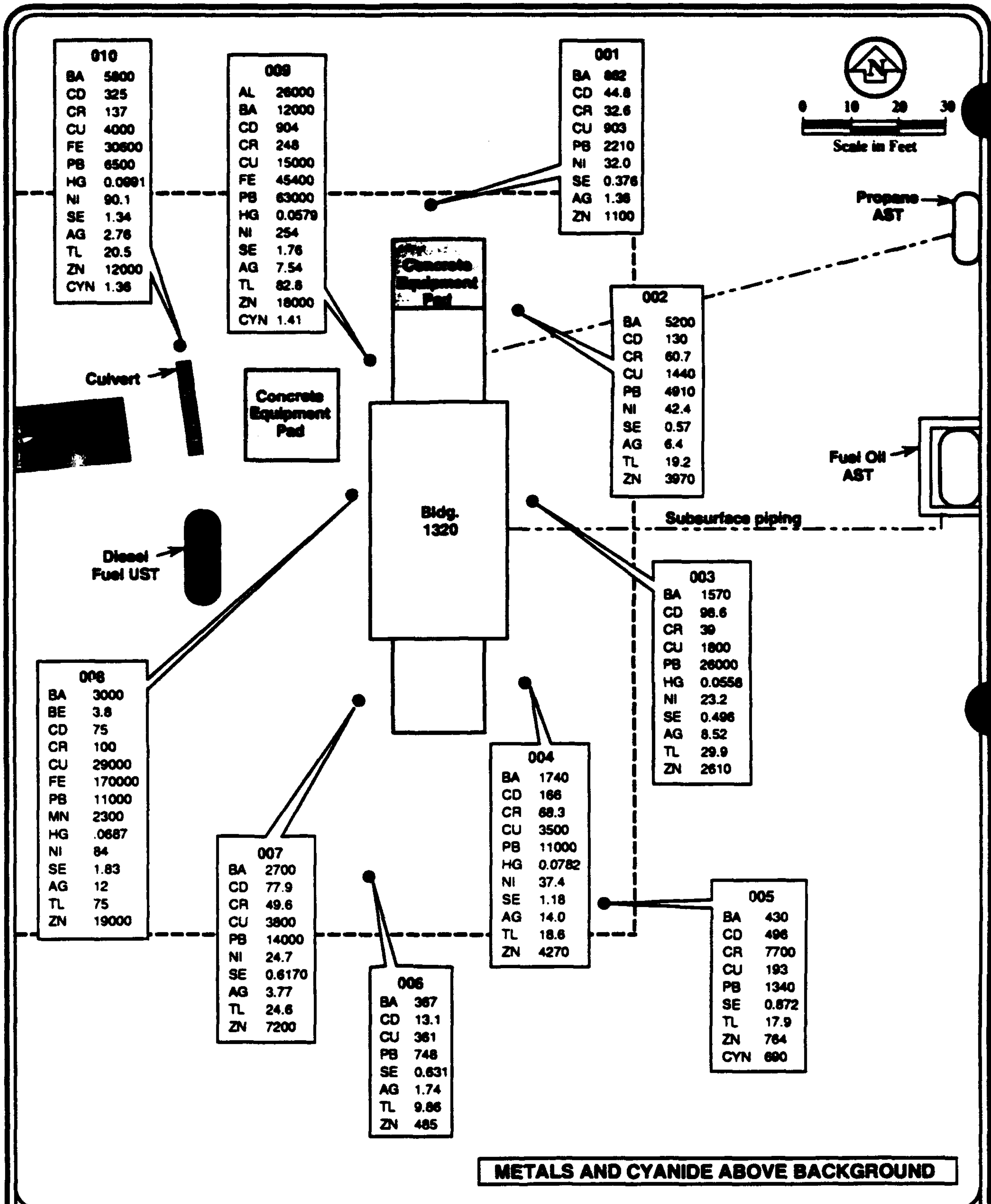
5.12.3.1. Previous Investigations. Previous investigations at the Deactivation Furnace Building were limited to analysis of baghouse dust and dust from the floor of the facility. Samples were analyzed for toxic characteristics according to TCLP, and the results indicated that the baghouse dust did exhibit the characteristics of a hazardous waste due to elevated levels of cadmium at 60 mg/L and lead at 69 mg/L. The sample also contained elevated levels of cresols and total metals including barium, cadmium, lead, chromium, and nickel (Rasmussen, 1991). The sample of dust from the floor of the facility contained detectable concentrations of lead, barium, and cadmium, but all were below the EP Toxicity limits (Bishop, 1990).

5.12.3.2. Phase I RFI Sampling and Results. Phase I RFI sampling involved collecting 10 samples of surface soils from locations around the outside of the facility and beneath the staging areas. All samples were analyzed for metals, VOCs, SVOC, dioxins/furans, explosives, and selected anions.

5.12.3.3. Contaminants detected in the samples include elevated metals, cyanide, organic compounds (VOCs and SVOCs), dioxins/furans, explosive compounds, and elevated anions. Figure 5-12-1 shows the concentrations of metals and cyanide that were detected above background levels. Figure 5-12-2 summarizes the dioxins/furans, explosives, VOCs, SVOCs and elevated anions that were detected. Table 5-12, at the end of Section 5.0, contains a summary of the analyses.

5.12.4. Contamination Assessment

5.12.4.1. Based on the results of the Phase I RFI sampling program, it is apparent that various types of contaminants have been released to the surface soils at SWMU 21. As shown in Figure 5-12-1, elevated levels of numerous metals were detected in all of the soil samples collected. Concentrations of lead ranged up to 26,000 µg/g, or 2.6 percent. Cyanide was also detected in three soil samples with one concentration at 690 µg/g. Proposed Subpart S soil action levels were exceeded for barium (three samples), cadmium (nine samples), beryllium (one sample), and possibly various thallium compounds (nine samples).



Source: Modified from USGS Grantsville 7.5 minute quadrangle.

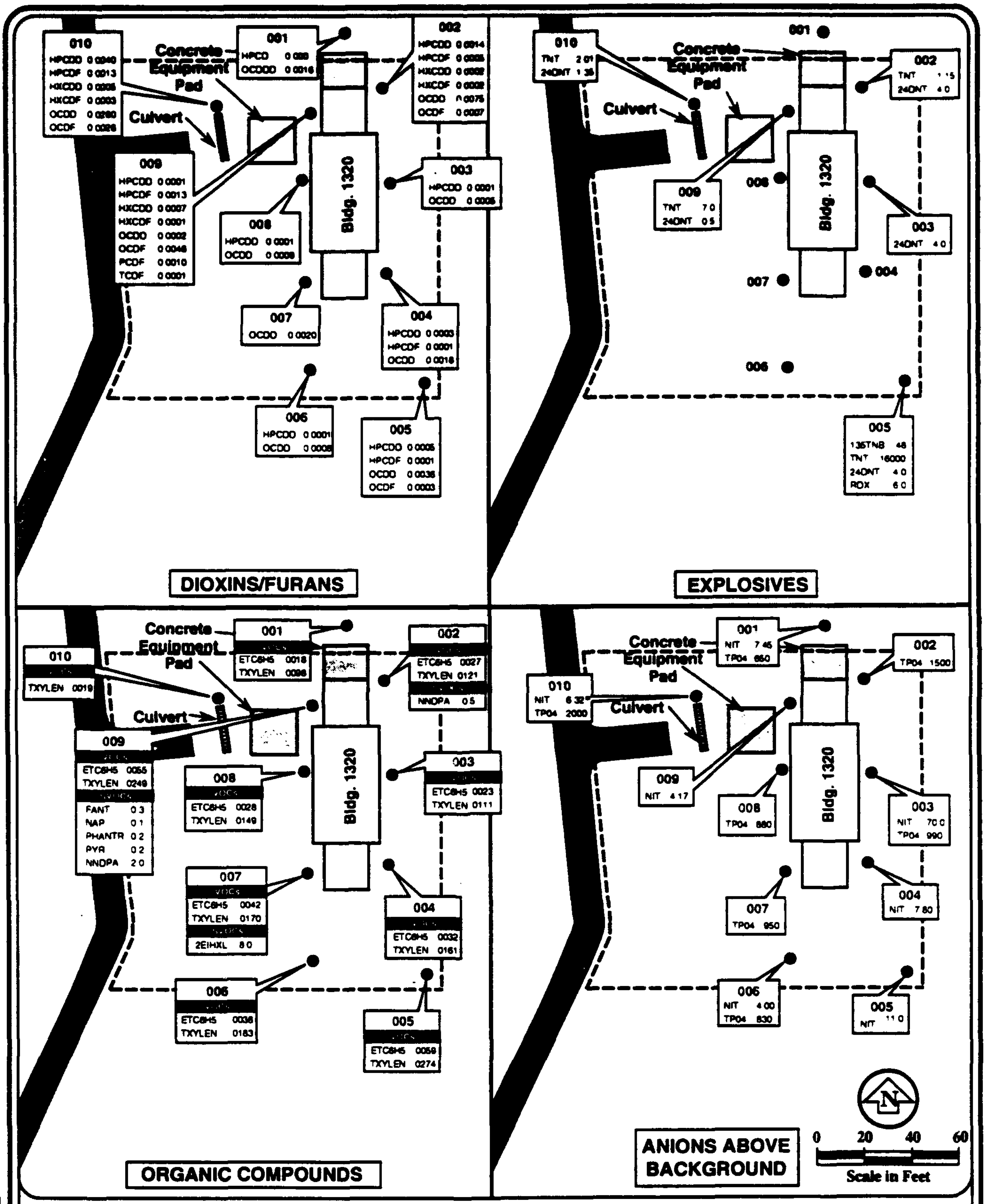
EXPLANATION

- - - Proposed SWMU area boundary

001 ● Surface soil sample location (results in µg/g)

TEAD-N PHASE I RFI
DEACTIVATION FURNACE BUILDING (SWMU 21)
SURFACE SOIL SAMPLES
FIGURE 5-12-.

PROJECT NO. 2942.0140



PROJECT NO. 2942.0140

Source: Modified from USGS Grantsville 7.5 minute quadrangle.

EXPLANATION

- - - Proposed SWMU area boundary

006 ● Surface soil sample location (results in µg/g)

· Data considered estimated. Refer to Appendix C.

TEAD-N PHASE I RFI
DEACTIVATION FURNACE BUILDING (SWMU 21) SURFACE SOIL SAMPLES
FIGURE 5-12-2

5.12.4.2. Detectable levels of dioxins/furans were also present in all surface soil samples taken from this SWMU. Sample 010 contained the highest levels of three isomers of both dioxins and furans. Although several of these compounds were detected at concentrations above the one μg/kg benchmark, none of the most toxic isomer, 2,3,7,8-TCDD, was detected. The hexachlorodibenzo-dioxin (HXCDD) isomer was detected in three of the soil samples. All three detections exceeded the draft Subpart S action level for HXCDD of 0.1 μg/kg.

5.12.4.3. Detectable quantities of several explosives were present in five of the ten samples collected. Although most of these compounds were in the one to ten μg/g range, one sample from a staging area southwest of the facility, contained 16,000 μg/g, or 1.6 percent, TNT. Concentrations of 2,4-DNT and 1,3,5-TNB exceeded the proposed health-based criteria of 2.27 μg/g and 3.5 μg/g for these compounds in three of the soil samples from this SWMU.

5.12.4.4. Both VOCs and SVOCs were also detected in the surface soils at SWMU 21. Ethylbenzene and total xylene were found in all 10 samples, in concentrations below 0.1 μg/g. While Table 5-12 indicates that toluene was also present, the data evaluation has concluded that this compound is a likely laboratory contaminant (see Appendix C). The ethylbenzene and xylenes are a component in many types of fuel. Since the kiln is fired by fuel oil, their presence is probably related to fuel spills or incomplete combustion. Three samples contained detectable concentrations of SVOCs. One of these samples contained six SVOCs ranging from 0.1 to 2.0 μg/g, while the other contained 8 μg/g of only one SVOC. The SVOCs detected are polycyclic aromatic hydrocarbons (PAHs) which are typical components of burn residue.

5.12.4.5. Elevated levels of nitrates and/or total phosphates were found in all soil samples. These compounds may be naturally occurring or are possibly present as combustion products from the incineration of explosives.

5.12.5. Recommendation

5.12.5.1. Based on the results of the Phase I RFI sampling, there is evidence that demilitarization activities at SWMU 21 have released numerous types of contaminants to the environment. For this reason, it is recommended that this SWMU be included in the Phase II activities. Specific recommendations are included in Section 6.0.

5.13 DRMO STORAGE YARD (SWMU 26)

5.13.1. Site Description and Waste Generation

5.13.1.1. The Defense Reutilization and Marketing Office (DRMO) primarily coordinates the sale, recycling, and disposal of TEAD-N refuse, and handles the contractual aspects of hazardous waste disposal for TEAD. The DRMO is contained in a fenced yard that covers 60 acres in the eastern section of the Maintenance Area (Figure 3-1). Several corrugated steel storage buildings occupy portions of the site. Storage times vary according to waste types and range from a few months to several years (NUS, 1987).

5.13.1.2. According to EPIC aerial photographs, this site became active sometime between 1953 and 1959 (USEPA, 1982). Interpretation of a 1959 photograph describes the site as a storage yard, with noticeable ground staining, debris piles, and container storage. In 1966, the site had been graded and drum storage and ground staining were observed. In a 1981 photograph, a large area of ground staining, as well as drum storage and debris piles, were noted (USEPA, 1982). NUS (1987) reported three ruptured drums during a site inspection.

5.13.2. Site Conditions

5.13.2.1. The DRMO Storage Yard is flat and unpaved, and the surface has been reworked and leveled. Soils beneath the site consist of interlayered fine-grained silts and clays and coarse-grained gravels and sands assigned to the Abela Soil Series (USSCS, 1991). Bedrock is approximately 700 feet bgs (ERTEC, 1982). The regional water table is approximately 370 feet bgs, and the groundwater flow is to the northwest (JMM, 1988).

5.13.3. Previous Sampling and Phase I RFI Sampling and Results

5.13.3.1. Previous Sampling. Previous investigations conducted at the DRMO Storage Yard are limited to pre-construction sampling for hazardous waste characteristics according to the TCLP method for metals and VOCs. Five locations were sampled from 0 to 2 feet bgs and two samples from each location were analyzed. Barium, cadmium, silver, and 1,1,2-dichloroethene were detected in the sample leachate. Except for one sample which produced 1.04 mg/L of cadmium in leachate (slightly above the RCRA threshold of 1.0 mg/L for cadmium), none of the soils exhibited the characteristics of a hazardous waste.

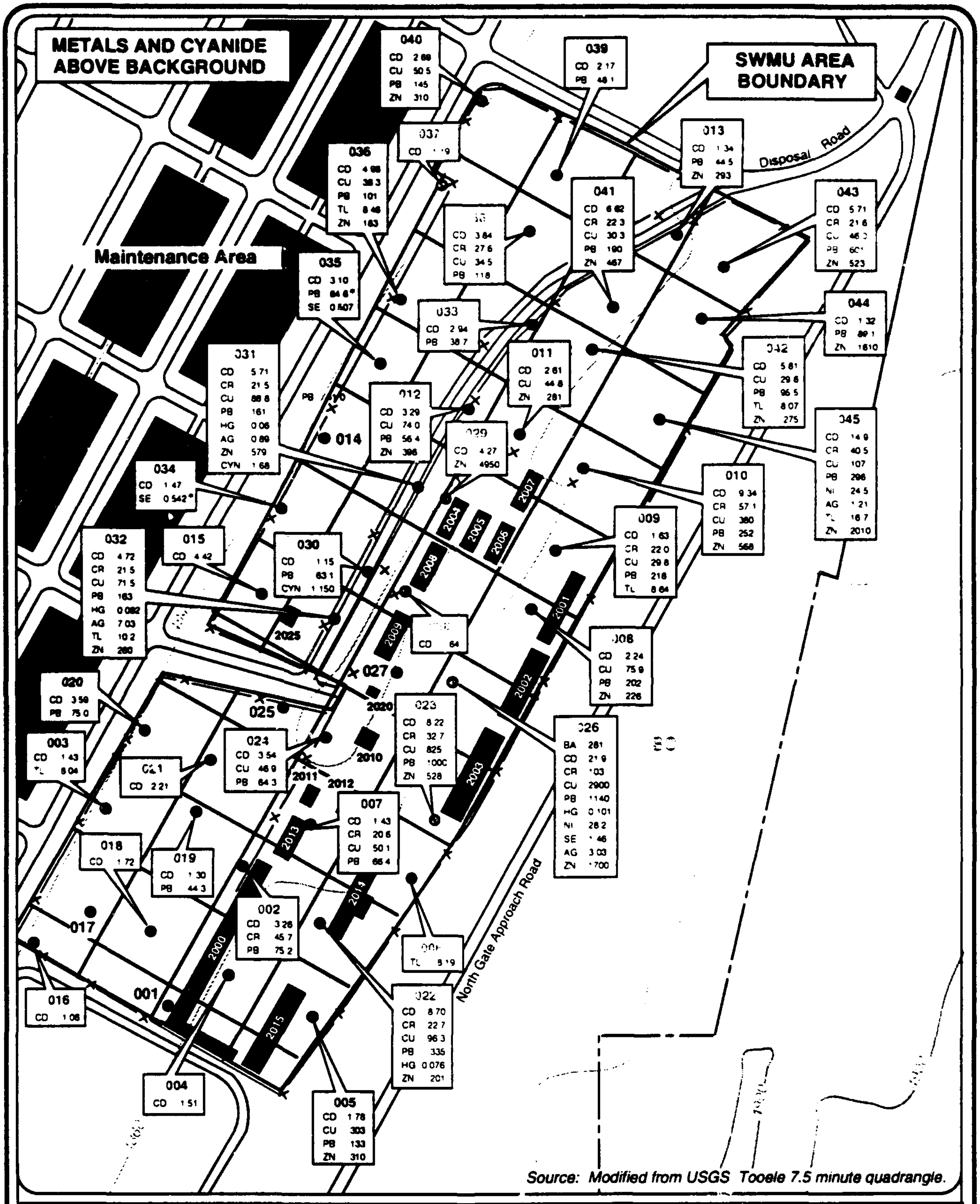
5.13.3.2. Phase I RFI Sampling and Results. The RFI sampling program conducted at the DRMO yard consisted of collecting 45 surface soil samples and 15 shallow soil samples (from 1 to 3 feet bgs) from random cells in a sampling grid that covered the area. All samples were analyzed for VOCs, SVOCs, metals, and cyanide.

5.13.3.3. Contaminants detected include metals and cyanide, which were elevated above background in some surface and shallow soil samples, and organic compounds. Figures 5-13-1 and 5-13-2 show metals and cyanide concentrations above background for surface and shallow soils, respectively. Figures 5-13-3 and 5-13-4 summarize VOCs and SVOCs that were detected.

5.13.4. Contaminant Assessment

5.13.4.1. Based on the results of the Phase I RFI sampling program, it appears that various contaminants have been released to the surface and shallow soils at SWMU 26. Figures 5-13-1 and 5-13-2 show metals concentrations that were above background in surface soil and shallow soil samples, respectively. Cyanide was present in surface soil samples SS-26-030 and SS-26-031, but only at concentrations of 1.15 and 1.68 μg/g, respectively. These concentrations are far below the proposed Subpart S action level of 2000 μg/g for this compound. Cadmium and lead were also detected frequently at concentrations which exceed the upper thresholds for background. However, these and all concentrations of metals were found to be below proposed Subpart S action levels for those analytes having published thresholds. Lead, which is generally regulated on a case-by-case basis, was frequently detected at levels above 100 μg/g and was detected at 1000 and 1140 μg/g in two of the 45 surface soil samples.

5.13.4.2. VOC and SVOC concentrations for surface soil and shallow soil samples are shown on Figures 5-13-3 and 5-13-4. VOCs detected include comparatively low concentrations of acetone and trichlorofluoromethane, but because these compounds were identified as laboratory contaminants by the data evaluation (see Appendix C), they are not included in the contamination assessment. SVOCs detected include benzo [a] anthracene, benzo [a] pyrene, benzo [b] fluoranthene, benzo [k] fluoranthene, bis (2-ethylhexyl) phthalate, chrysene, fluoranthene, phenanthrene, and pyrene, all at concentrations less than 10 μg/g. The majority of contamination appears to be present only in the surface soils, and, with the exception of soil boring 007 (near Building 2013), does not persist to depth. None of these SVOCs detected at this SWMU have action levels established for soil concentrations.



EXPLANATION

011 ● Soil boring surface soil sample location (results in µg/g)

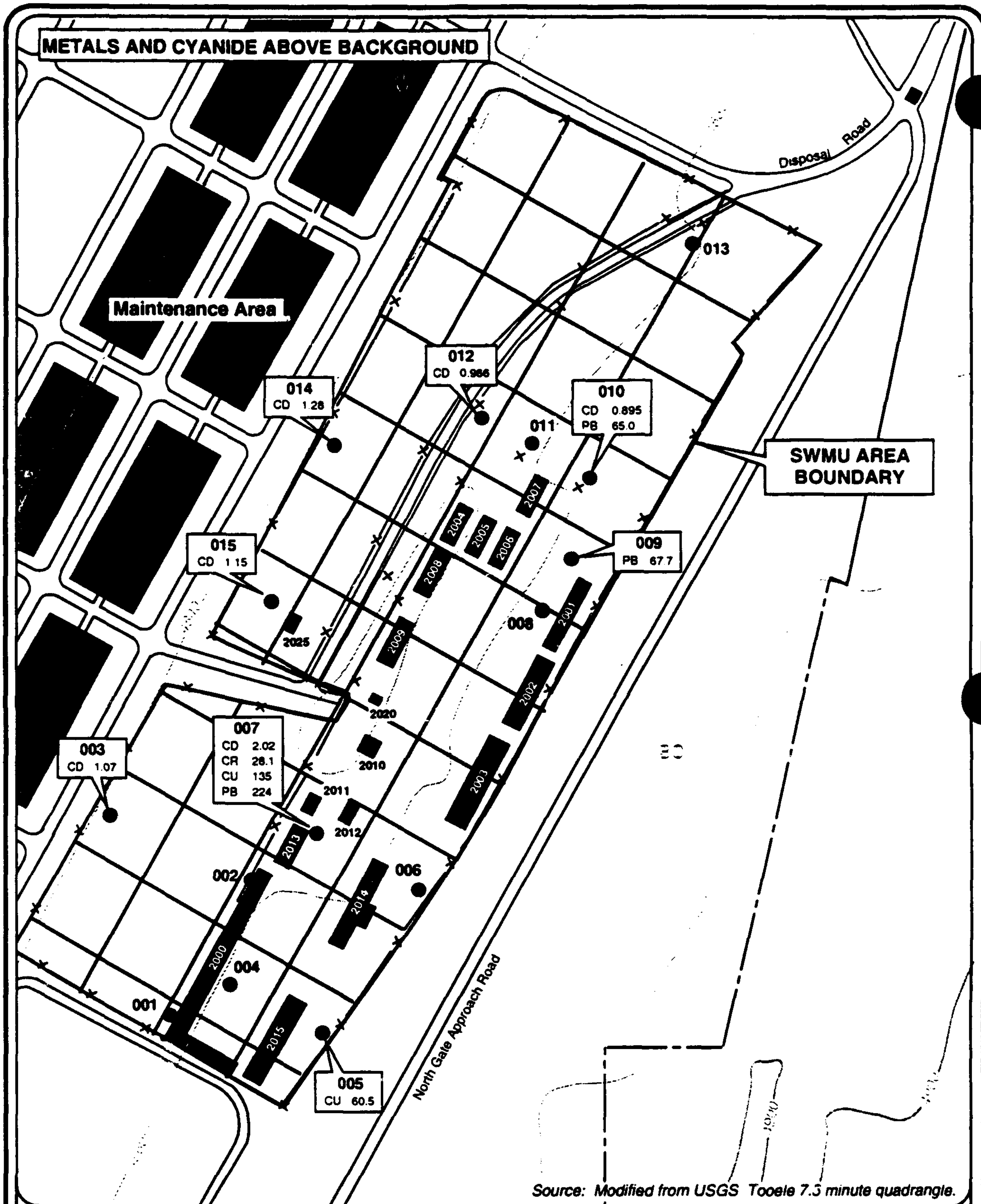
* Data considered estimated. Refer to Appendix C.

N

0 400 Scale in Feet

TEAD-N PHASE I RFI
DRMO STORAGE YARD (SWMU 26)
SURFACE SOIL SAMPLES
FIGURE 5-13-1

PROJECT NO. 2942.0140



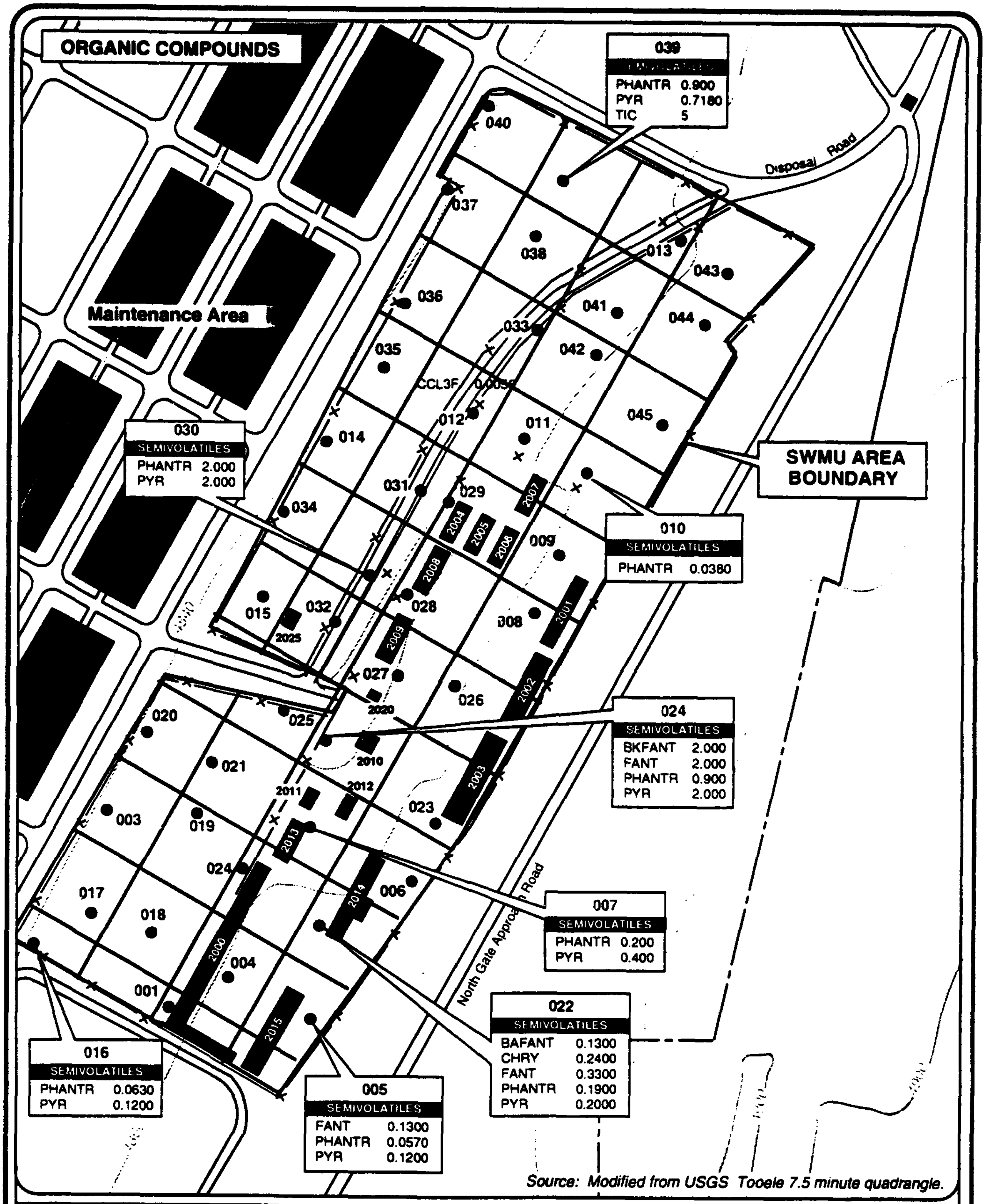
EXPLANATION

011 ● Soil boring subsurface soil sample location (results in µg/g)

0 400
Scale in Feet

TEAD-N PHASE I RFI
DRMO STORAGE YARD (SWMU 26) SHALLOW SOIL SAMPLES
FIGURE 5-13-2

PROJECT NO. 2942.0140



Source: Modified from USGS Tooele 7.5 minute quadrangle.

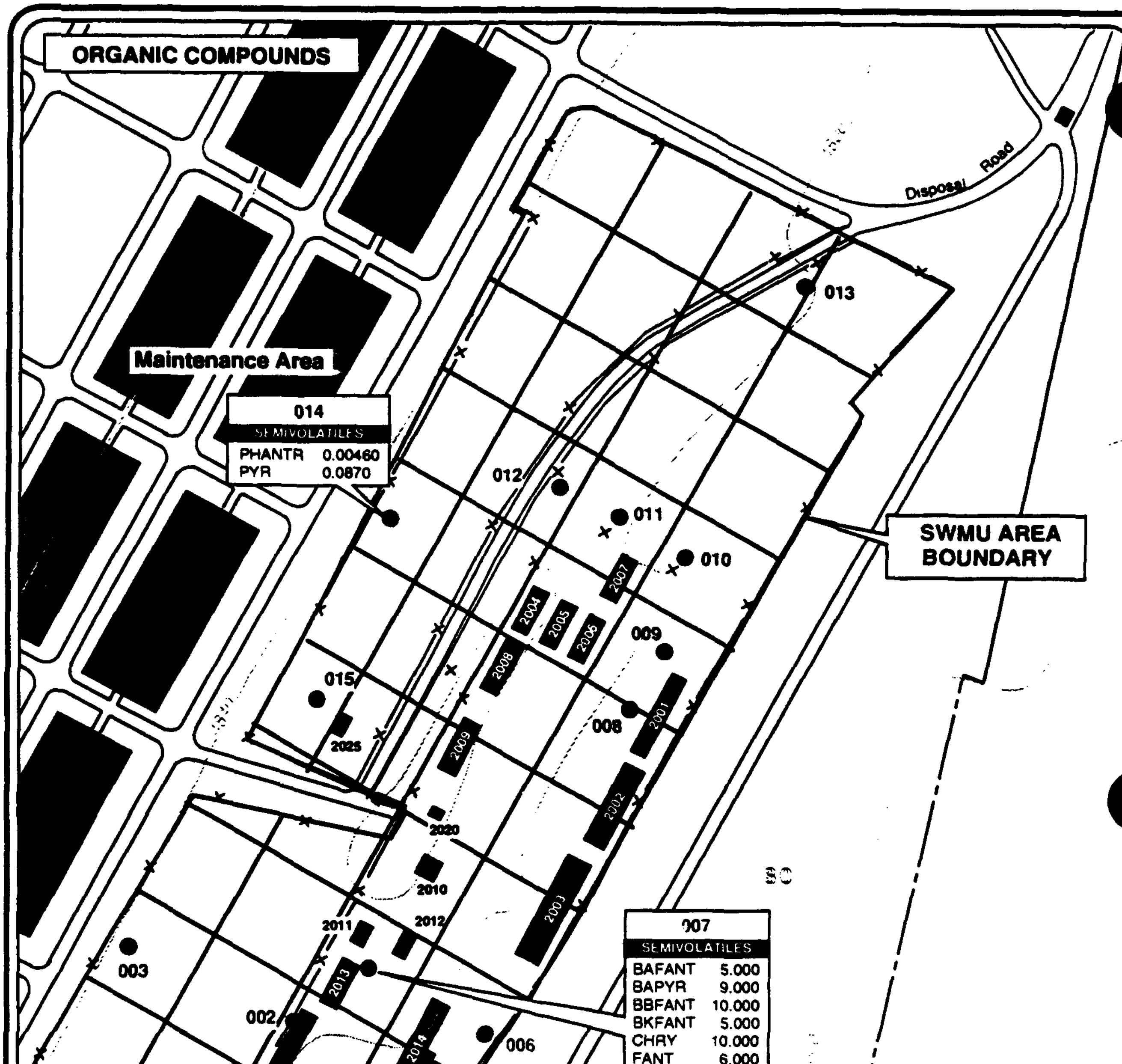
PROJECT NO. 2942.0140

EXPLANATION

011 ● Soil boring surface soil sample location (results in µg/g)

0 400
Scale in Feet

TEAD-N PHASE I RFI
DRMO STORAGE YARD (SWMU 26) SURFACE SOIL SAMPLES
FIGURE 5-13-3



EXPLANATION

011 ● Soil boring subsurface soil sample location (result in µg/g)

N

0 400

Scale in Feet

TEAD-N PHASE I RFI

DRMO STORAGE YARD (SWMU 26) SHALLOW SOIL SAMPLES

FIGURE 5-13-4

PROJECT NO. 2942.0140

5.13.5. Recommendation

5.13.5.1. Based on the results of the Phase I RFI sampling, it appears that the storage and recycling activities at SWMU 26 have released several types of contaminants to the environment. For this reason, it is recommended that additional evaluations of this SWMU are conducted under a Phase II investigation. Specific recommendations are included in Section 6.0.

5.14 RCRA CONTAINER STORAGE (SWMU 27)

5.14.1. Site Description and Waste Generation

5.14.1.1. The RCRA Container Storage Area is a locked building (Building 528) that is completely surrounded by a perimeter chain-link fence, and is located in the TEAD-N Administration Area. The floor slab was constructed in 1980 on granular imported fill with a coarse gravel surface, and the building was added in 1986. This facility is currently regulated under interim status for long-term storage of hazardous waste generated at TEAD-N while the RCRA part B application is being reviewed by various regulatory agencies.

5.14.1.2. Wastes are stored in this building that require treatment before disposal. The containerized wastes are segregated according to chemical characteristics by an "x"-shaped concrete berm that divides the building into four parts. During a site visit in 1989, approximately 900 55-gallon drums containing a variety of wastes were stored in the building (JMM, 1989). During a fall 1989 E. C. Jordan visit, approximately 30 to 40 full drums were stored outside the fenced area of Building 528 awaiting transport for off-site disposal. The drums were staged on pallets and labeled according to their contents, which included industrial wastewater sludge, fuels, solvents, detergents, paint sludges, fiberglass filters, used polyurethane, 1,1,1-trichloroethane, oil coolant, and thinners (E. C. Jordan, 1989).

5.14.1.3. Inside the building, bermed areas 1 and 3 contain ignitable wastes such as solvents, oils, paints, thinners, and enamels; area 2 contains ash from the heating plant furnace and plating solutions from metal plating shops; and area 4 contains corrosives (acids and bases).

5.14.1.4. The concrete floor in Building 528 is frequently inspected and maintained to prevent cracks through which spillage could leak. Each of the four bermed storage areas are

connected to separate PVC drain lines that extend to outside the building. If a spill occurs, these pipes drain the liquid through the perimeter wall where they can be uncapped and the material can be containerized. Spill response at this facility is provided in the TEAD-N Spill Prevention Control and Countermeasures Plan (SPCCP) and Hazardous Waste Contingency Plan (HWCP) (TEAD-N. 1991a,b). Spill control equipment and supplies are maintained at the site.

5.14.2. Site Conditions

5.14.2.1. Surface water runoff in the vicinity of SWMU 27 generally flows in a westerly direction. The soils in the area are silty gravels of the Abela Series (USSCS, 1991), and the depth to groundwater is approximately 380 feet bgs (JMM, 1988). The depth to bedrock is approximately 1,500 feet bgs (ERTEC, 1982).

5.14.3. Previous Sampling and Phase I RFI Sampling and Results

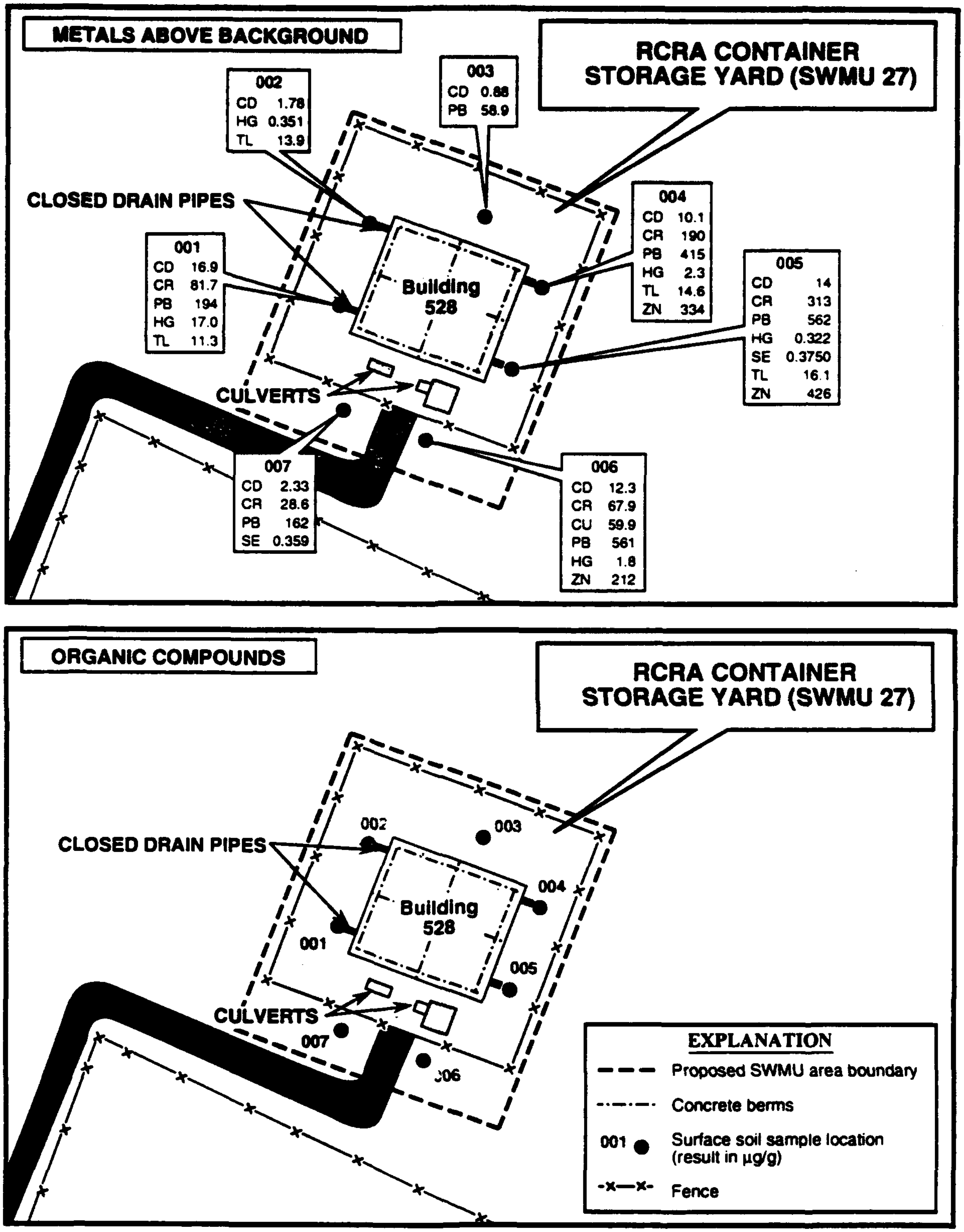
5.14.3.1. Previous Investigation. No previous environmental field investigations had been conducted at the RCRA Container Storage Area prior to the Phase I RFI. Although three ruptured drums were observed inside the building during a site inspection in 1986, no evidence existed to indicate a hazardous materials release to the environment (NUS, 1987).

5.14.3.2. Phase I RFI Sampling and Results. Seven surface soil samples were collected from the RCRA container storage yard. One sample was taken beneath each of the four drain pipes and three from open areas inside the fence where drums were stored. All samples were analyzed for VOCs, SVOCs, and metals.

5.14.3.3. Analytes detected during the Phase I RFI include heavy metals and the VOC hexane. Figure 5-14-1 shows concentrations of metals detected above the RFI background levels. The analysis results are summarized in Table 5-14. Hexane, although reported in the sample results table, is suspect because it was detected consistently in all samples and is a known laboratory solvent. As a result, hexane is not included in Figure 5-14-1 and is not included in the contamination assessment. No other organic compounds were detected.

5.14.4. Contamination Assessment

5.14.4.1. Based on the results of the Phase I RFI sampling program, it appears that some elevated levels of metals are present in SWMU 27 soils. Above-background concentrations of



Source: Modified from USGS Tooele 7.5 minute quadrangle.

TEAD-N PHASE I RFI

RCRA CONTAINER STORAGE YARD (SWMU 27) SURFACE SOIL SAMPLES

FIGURE 5-14-1

PROJECT NO. 2942.0140

cadmium, chromium, zinc, lead, mercury, and thallium were detected at 16.9, 313.0, 426.0, 562.0, 17.0, and 16.1 μg/g, respectively. The levels of thallium detected may exceed proposed Subpart S concentrations, which are compound-specific. No other metals concentrations exceeded any present or proposed health-based clean-up or action level criteria, though lead levels, which have no established action level, may be considered to pose a hazard. However, since all soil samples at SWMU 27 were collected from the imported granular fill material underlying the facility, it is possible that these metals could be naturally-occurring in this fill, rather than a result of a contaminant release. The source of this fill is currently not known.

5.14.5. Recommendation and Interim Health Risk Evaluation

5.14.5.1. Based on the above results, it appears that waste storage activities at SWMU 27 may have released metals to the environment. However, at the appropriate time, the RCRA Container Storage Area will be closed under the applicable RCRA requirements, which will involve additional environmental sampling activities. Because of this, no further RFI activities are recommended at SWMU 27 at this time under the existing Corrective Action Permit. In the interim, potential risks to site workers are expected to be low due to the limited exposure potential. The following paragraphs discuss this issue.

5.14.5.2. Cadmium, chromium, lead, mercury, selenium, thallium, and zinc were observed in samples from within the fenced area at levels as high or higher than outside the fence and, as such, the greatest potential risks might be thought to be derived from this area. However, the area within the fence is covered with gravel and the potential for dust to be generated is reduced. Therefore, the potential for exposure to occur is minimal.

5.14.5.3. The area outside the fence is soil partially covered with vegetation, and dust can be generated by wind from this area. However, the overall exposure potential is still expected to be low. Personnel work only intermittently at this facility, with personnel generally present less than one week per month. Due to weather conditions, the ground is frozen and/or covered with snow approximately six months of the year. Because the work is performed inside, dust levels would be expected to be less than outdoors (excluding any dust generated by the work activities inside the building that is characterizable as an occupational, rather than an environmental, exposure). If one assumes the maximum detected concentrations of metals outside the fence correspond to average concentrations in soil, that 70-kilogram workers are present one week in four (which approximates current conditions) for 25 years and inhale 20 cubic meters of air per workday, the dust levels are 50 $\mu g/m^3$ (which corresponds to the National Ambient Air Quality Standard for PM_{10}), and that half of the particulates are from the soil immediately surrounding the facility, then the cancer risk

would be estimated to equal 1 x 10^{-6}, which is considered a *de minimus* risk. This value is primarily from chromium (under the worst case assumption that it is present entirely as CR(VI)), with cadmium also having a small contribution.

5.14.5.4. Lead is generally considered a hazard at industrial sites at 1,000 mg/kg, with exposure occurring every day. Because the maximum concentration is 561 mg/kg and because workers are present only intermittently, this site should not cause a significant risk. Noncarcinogenic effects are not expected because (making the same exposure assumptions as above) chronic daily intakes are on the order of 10^{-7} mg/kg/day, and noncarcinogenic toxicity is generally not associated with doses of this magnitude.

5.15 90-DAY DRUM STORAGE AREA (SWMU 28)

5.15.1. Site Description and Waste Generation

5.15.1.1. The 90-Day Drum Storage Area is a 3.4-acre fenced lot located near the southern end of the Maintenance Area. It is located adjacent to the northern region of the Drum Storage Area (SWMU 29) and immediately east of the Sanitary Landfill (SWMU 15). EPIC photographs (from 1953, 1959, 1966, and 1981) indicate that until approximately 1983, when the facility was constructed, drums were never stored within the perimeter of the 90-Day Storage Area (USEPA, 1982). EPIC photographs from 1953 show that the site was previously used for vehicle storage. No ground staining or standing liquid is evident on any of the available EPIC photographs.

5.15.1.2. Currently, drummed wastes including gasoline, phosphoric acid, sodium hydroxide, paint wastes, thinners, solvents, paint filters, blast grit, used oil, and antifreeze are stored above ground on pallets in this area. Drums remain sealed and are stored up to 90 days before being transported off the Depot to a hazardous waste management facility by a contractor or to the permanent storage facility in Building 528. This site is not included in the TEAD-N RCRA permit because 90-day storage areas are not required to obtain interim status operating permits.

5.15.1.3. Spill response at the 90-Day Drum Storage Area is provided in the TEAD-N SPCCP, ISCP (1991a), and HWCP (1991b). Spill control equipment and supplies are maintained at the site to aid in cleanup of any spills. According to TEAD-N (1991a), the largest expected spill would be equal to the largest container at the facility (55 gallons).

5.15.2. Site Conditions

5.15.2.1. Soils beneath the 90-Day Storage Area consist of silty and sandy gravel of the Abela Series (USSCS, 1991). The ground surface is covered by imported gravel (Mander, 1989). The approximate depth to the to the regional groundwater table is 300 feet bgs, and the direction of groundwater flow is toward the northwest (JMM, 1988). The depth to bedrock is approximately 1,250 feet bgs (ERTEC, 1982).

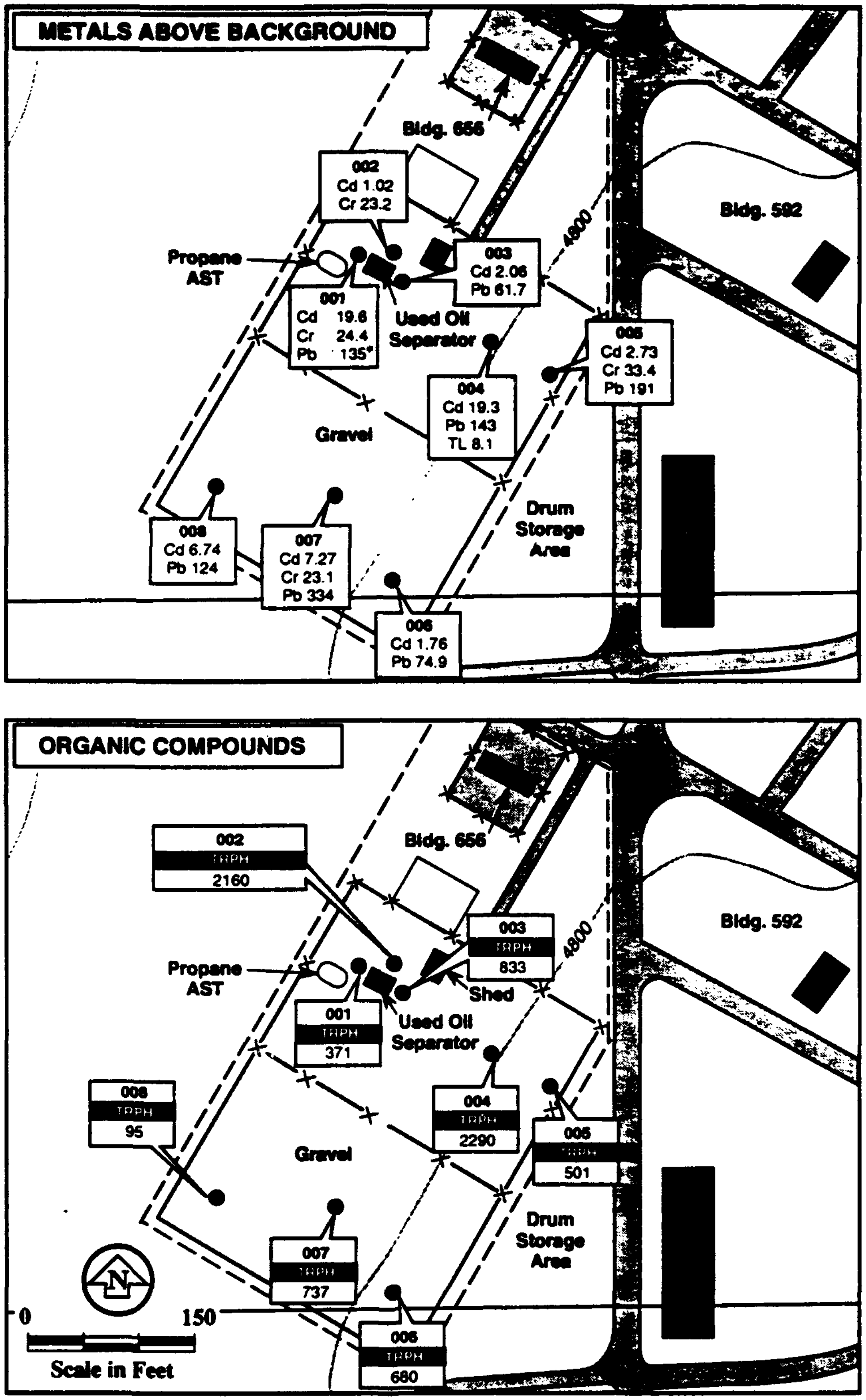
5.15.3. Previous Sampling and Phase I RFI Sampling and Results

5.15.3.1. Other than the aerial photographic information, no previous environmental field investigations had been conducted at the 90-Day Drum Storage Area prior to Phase I RFI sampling. Sampling at the 90-Day Drum Storage Area consisted of collecting eight samples of surface soils from areas where ground staining was observed. Samples were analyzed for total metals, VOCs, SVOCs, and TRPH.

5.15.3.2. Contaminants detected during the Phase I RFI sampling included heavy metals, volatile and semi-volatile organic compounds and total petroleum hydrocarbons. Figure 5-15-1 shows analyte concentrations and Table 5-15, included at the end of Section 5.0, contains a summary of the contaminants detected.

5.15.4. Contamination Assessment

5.15.4.1. Based on the results of the Phase I RFI sampling program, it is apparent that metals and organic compounds have been released to the surface soils of SWMU 28 although, due to the sampling approach (to sample isolated stained areas), there is no evidence of widespread contamination. Concentrations of cadmium, lead, and zinc, ranged up to 19.6, 334, and 129 µg/g, respectively. Of these metals, only cadmium has a proposed Subpart S action level at 40 µg/g. One VOC, one SVOC, and total petroleum hydrocarbons were detected in the surface soils at SWMU 28. Acetone was detected at 0.099 µg/g in sample SS-28-002, adjacent to the used oil separator, and the semi-volatile compound butylbenzyl phthalate was also detected at 2 µg/g in this same sample. These concentrations are extremely low compared to the proposed Subpart S action levels, which are 8,000 µg/g and 20,000 µg/g for acetone and butyl benzyl phthalate, respectively. These compounds are not included as contaminants here due to their being common lab contaminants, especially at these low levels. All samples contained TRPH, with the highest concentration at 2290 µg/g. The highest TRPH values are in the area near the used oil separator and probably result from small spills while downloading waste liquid into the oil separator.



Source: Modified from USGS Tooele 7.5 minute quadrangle.

Note: All results in µg/g.

EXPLANATION

- 003 ● Surface soil sample location
- x—x Fence
- ⬭ Aboveground storage tank
- * Data considered estimated. Refer to Appendix C.

TEAD-N PHASE I RFI

90-DAY DRUM STORAGE AREA (SWMU 28) SURFACE SOIL SAMPLES

FIGURE 5-15-1

PROJECT NO. 2942.0140

5.15.5. Recommendation

5.15.5.1. Based on the results of the Phase I RFI sampling, it appears that activities at this SWMU have released contaminants, mainly metals and heavier petroleum hydrocarbons, to the environment. For this reason, it is recommended that this SWMU be included in the Phase II activities. Specific Phase II activities recommended for this SWMU are included in Section 6.0.

5.16 Drum Storage Areas (SWMU 29)

5.16.1. Site Description and Waste Generation

5.16.1.1. SWMU 29 consists of two Drum Storage Areas (northern and southern) located near the southern end of the Maintenance Area (Figure 3-1). The two areas are separated by the Maintenance and Supply Road. The southern area (also known as the old lumber yard) is a fenced, 25-acre expanse of gravel and broken asphalt surface with a single warehouse (Building 576) and two smaller associated office facilities (Buildings 589 and 591). Currently, Building 576 stores hazardous materials used at TEAD-N, while numerous U.S. Army Hemmet vehicles are parked outside the building. Historical aerial photographs show that the southern part of SWMU 29 has been used for the storage of drums, as well as cylinders, tanker trucks, and lumber (USEPA, 1982). SWMU 29 is located in the vicinity of SWMU 28 (the 90-Day Drum Storage Area), and SWMUs 12 and 15 (the Sanitary Landfill, and the Pesticide Disposal Area within the Sanitary Landfill).

5.16.1.2. The northern area is a triangular-shaped, sparsely-vegetated, open area of approximately five acres. A 1953 aerial photograph shows drums stored in this area while aerial photographs taken in 1959 and 1966 indicate that the drums were removed and that the area was unoccupied. In 1981, an aerial photograph shows debilitated vehicles stored in the western part of the northern area (EPIC, 1986).

5.16.1.3. The Drum Storage Areas were used to store empty drums before they were returned to the originating contractor. Empty drums were reported to have been stored upside down to allow residual contents to drain and to keep precipitation out, and chemicals that may have been released include solvents, degreasers, and oils (EA, 1988). The 1959 and 1966 EPIC aerial photographs identify a portion of the southern area as a "pesticide storage lot."

5.16.2. Site Conditions

5.16.2.1. The surface of most of the southern region of this SWMU is covered by deteriorating asphalt, which slopes gently to the west toward a ditch that runs parallel to the Maintenance and Supply Road. In the northern region, natural vegetation is present and the surface slopes gently northwest. In the Drum Storage Areas, soils consist of silty and sandy gravels of the Abela Series (USSCS, 1991). The approximate depth to the regional water table is 300 feet bgs, and the direction of groundwater flow is to the northwest (JMM, 1988). The depth to bedrock is approximately 1,250 feet (ERTEC, 1982).

5.16.3. Previous Sampling and Phase I RFI Sampling and Results

5.16.3.1. Previous Investigations. In 1989, Weston conducted a Remedial Investigation (RI) at the Drum Storage Areas (Weston, 1990). Prior to the Weston study, no environmental investigations had been conducted at this site. The Weston RI included soil sampling at eight locations at depths of 0 to 0.5 feet, 0.5 to 1.0 feet, and 1.0 to 2.0 feet, and the installation and sampling of three monitoring wells. The samples were analyzed for VOCs, SVOCs, explosives, metals, pesticides, PCBs, and selected anions.

5.16.3.2. Sampling results indicated that surface soils were not widely contaminated. Volatile organic compounds, pesticides, PCBs, or explosives were not detected in any of the samples. Polynuclear aromatic hydrocarbons (PAHs) were detected in all of the samples and detectable levels of arsenic, cadmium, chromium, copper, sodium, nickel, lead, and zinc were observed in a number of samples. Weston concluded that the PAHs probably resulted from the asphalt covering. Not enough information was available to determine if metals levels were significantly above background levels.

5.16.3.3. Three wells were installed by Weston downgradient of the Drum Storage Areas, and subsurface soil samples were collected from each of the three borings for chemical analyses. Two wells were sampled and one well was dry. Potential chemicals of concern in subsurface soils were identified as bis (2-ethylhexyl) phthalate (SVOC), and the metals mercury and selenium. Potential groundwater contaminants were bis (2-ethylhexyl) phthalate, and the metals silver, arsenic, beryllium, chromium, copper, nickel, lead, and zinc. A volatile organic compound, trichloroethylene, was also included in the groundwater list because it was detected in well N-120-88, which is located downgradient of the Drum Storage Areas. However, this well lies within 700 feet of the closed Industrial Wastewater Lagoon Outfall Ditch B, which is a known historical source of trichloroethylene.

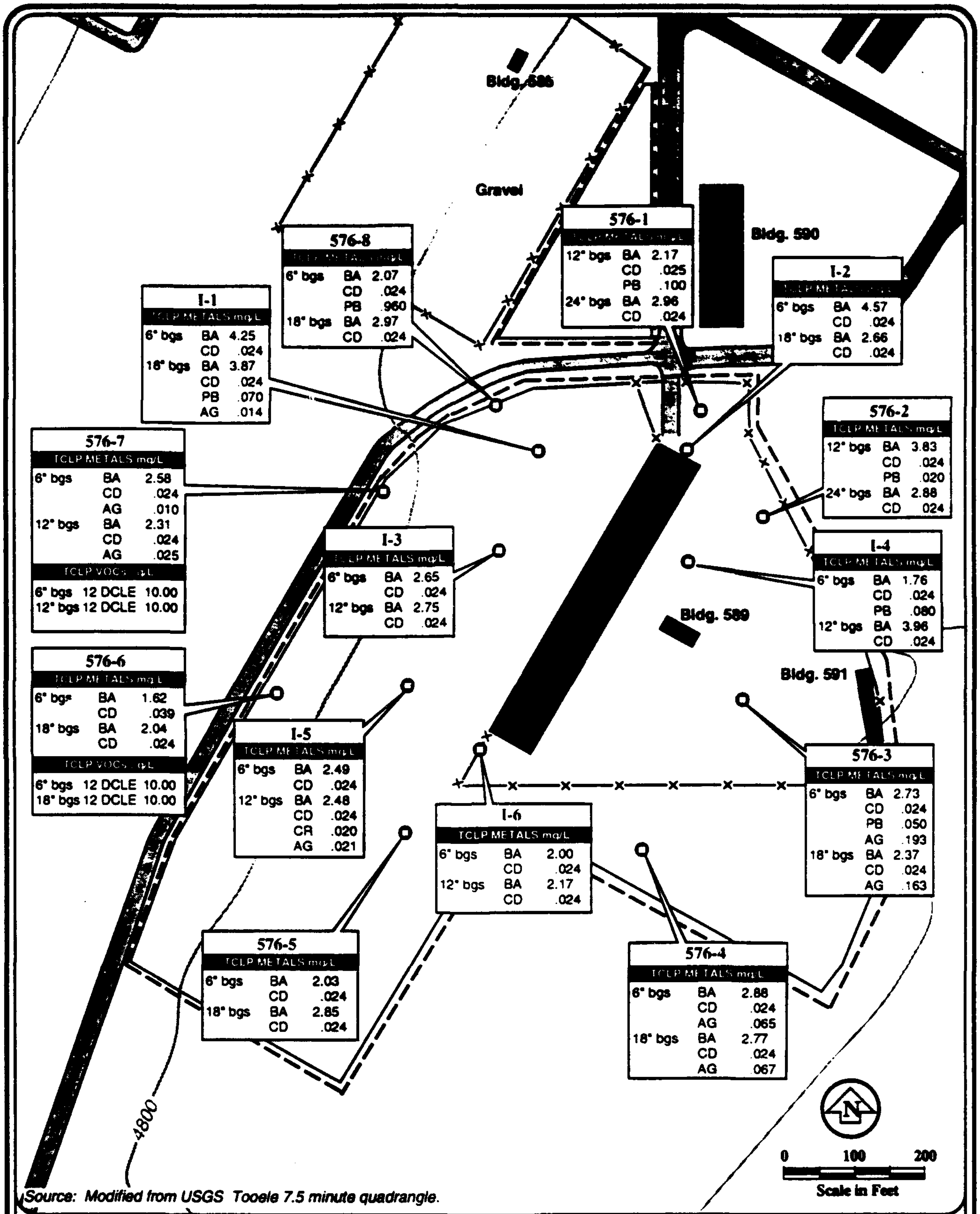
5.16.3.4. Because construction in this area is planned, a pre-construction investigation was conducted by Tetra Tech, Inc. in June, 1992. Soil sample results revealed arsenic, barium, chromium, lead, and silver at detectable concentrations in TCLP extract. In addition, the volatile organic compound 1,1,2-dichloroethane was also detected in two samples. Although these chemicals were present in the sample leachate, none of the samples contained high enough concentrations to exhibit the characteristic of a hazardous waste. Figure 5-16-1 shows the approximate sampling locations and the detections of metals and organic compounds found in the TCLP leachate for each sample.

5.16.3.5. Phase I RFI Sampling and Results. Soils at this SWMU were investigated through 37 shallow soil borings to 5 feet bgs. Borings were located in areas where aerial photographs indicated drums were once stored and in surface water runoff pathways. Two samples were collected from each boring. Surface soil samples were analyzed for metals and pesticides, and several were selected for additional analyses of VOCs, SVOCs, explosives, and TRPH. All of the deeper samples were analyzed for metals, pesticides, VOCs, SVOCs, and TRPH.

5.16.3.6. Contaminants detected include metals and cyanide, VOCs, SVOCs, pesticides, and TRPH. Figures 5-16-2 and 5-16-3 show the concentrations of metals and cyanide that are above background concentrations in surface and shallow soil samples, respectively. Figures 5-16-4 and 5-16-5 show VOCs, SVOCs, and TRPH concentrations in the surface and shallow soil samples, and Figures 5-16-6 and 5-16-7 summarize the pesticides results. Table 5-16, at the end of this section, contains a summary of the analyses.

5.16.4. Contamination Assessment

5.16.4.1. Based on the results of the Phase I RFI sampling program, it is apparent that various types of contaminants have been released to the surface and shallow sub-surface soils at SWMU 29. Contamination seems to be consistently present in samples from the ditch area that parallels the Maintenance and Supply Road (SB-29-33 through SB-29-37) in the south area of SWMU 29. As shown in Figure 5-16-2, various metals were detected above the thresholds for background. Thallium, barium, zinc, cadmium, chromium, and lead were detected at concentrations of 10.1, 263, 134, 3.13, 41.6, and 222 µg/g, respectively. Cyanide was detected at 55 µg/g in one surface soil sample (SB-29-028) where a small area of isolated staining is present. None of these analytes exceeded proposed Subpart S soil action levels, though certain specific thallium compounds have action levels proposed as low as 6.0 µg/g.

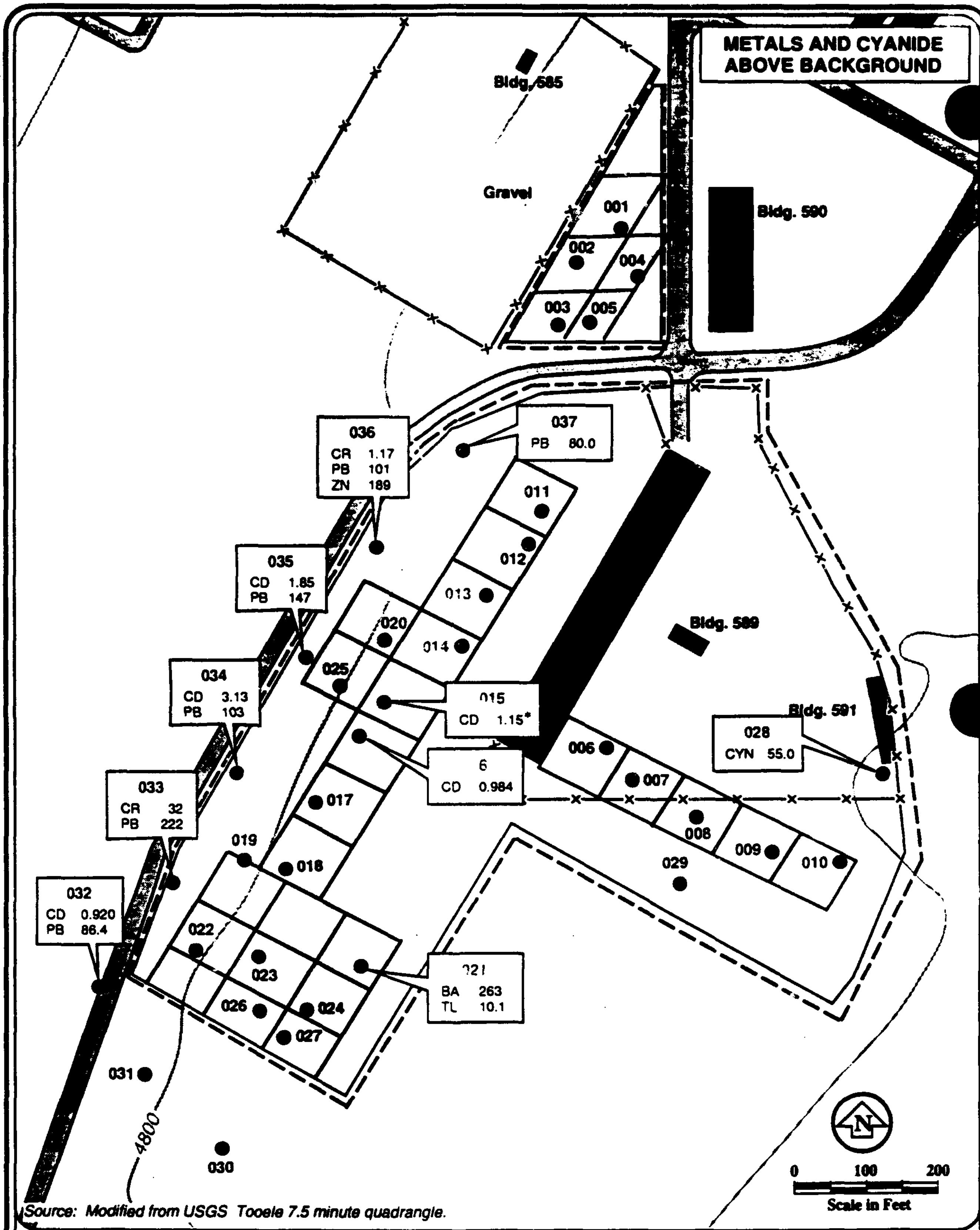


EXPLANATION

- — — Proposed SWMU area boundary
- x—x Fence
- I-6 ○ Soil sample location (results in mg/L)

PRE-CONSTRUCTION SAMPLING
DRUM STORAGE AREAS
(SWMU 29)
TCLP SOIL SAMPLES—JUNE 1992
FIGURE 5-16-1

PROJECT NO. 2942.0140

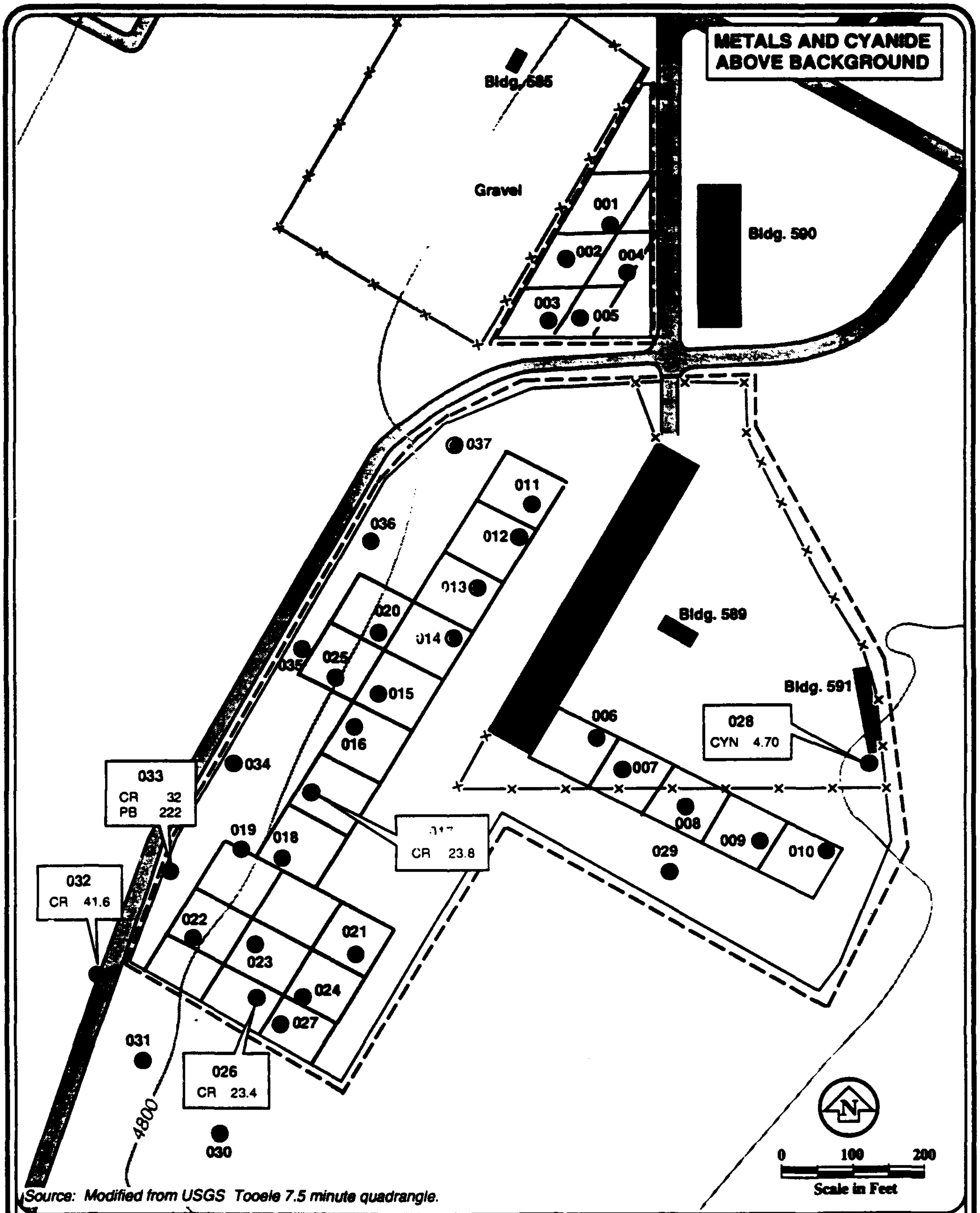


EXPLANATION

- Proposed SWMU area boundary
- Fence
- 032 Surface soil sample location (results in µg/g)
- * Data considered estimated. Refer to Appendix C.

TEAD-N PHASE I RFI
DRUM STORAGE AREAS (SWMU 29) SURFACE SOIL SAMPLES
FIGURE 5-16-2

PROJECT NO. 2942.0140



EXPLANATION

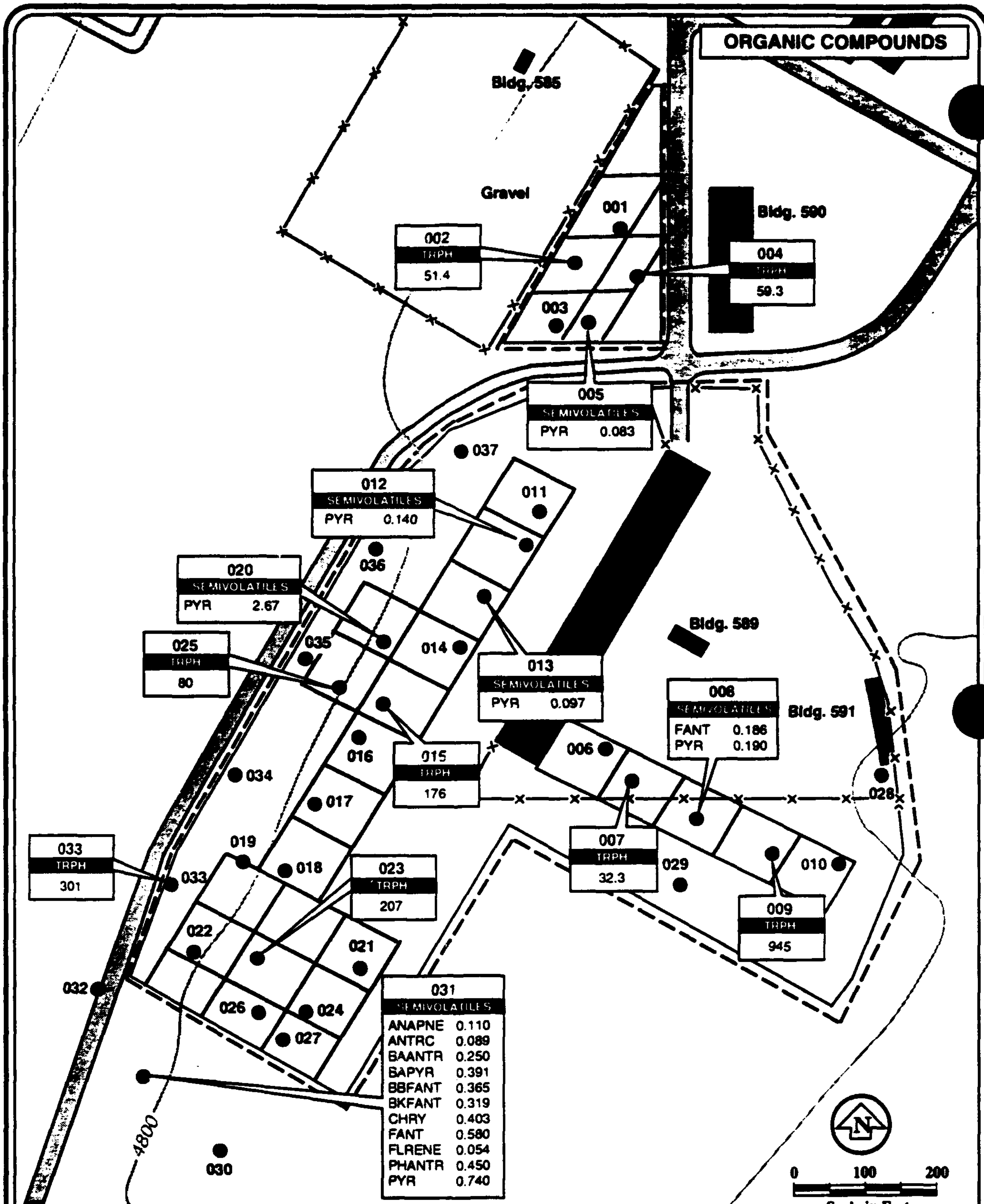
Proposed SWMU area boundary

Fence

032 Deeper soil sample location (results in µg/g)

TEAD-N PHASE I RFI
DRUM STORAGE AREAS
(SWMU 29)
DEEPER SOIL SAMPLES
FIGURE 5-16-3

PROJECT NO. 2942.0140



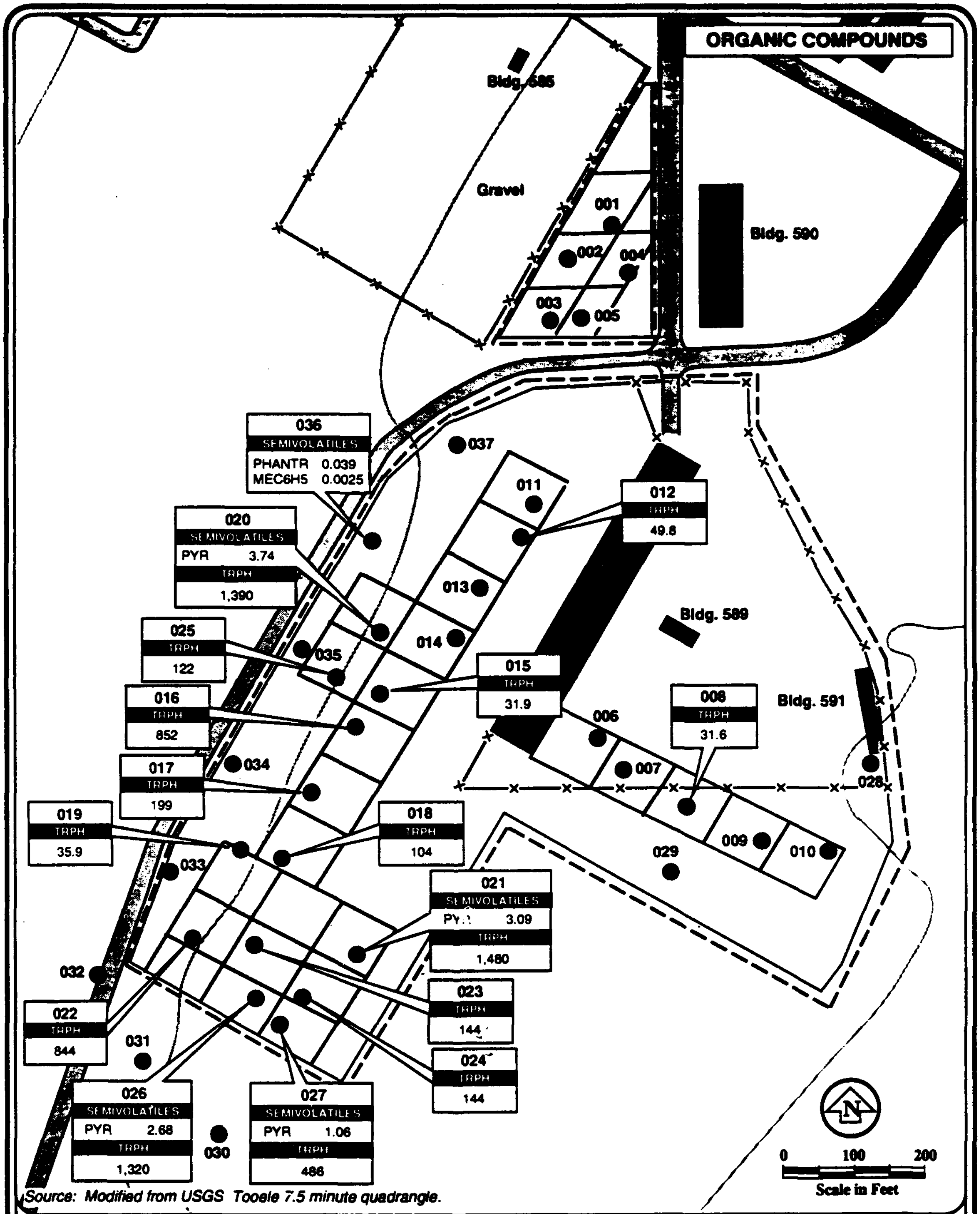
Source: Modified from USGS Tooele 7.5 minute quadrangle.

EXPLANATION

- — — Proposed SWMU area boundary
- x—x Fence
- 032 ● Surface soil sample location (results in µg/g)

TEAD-N PHASE I RFI
DRUM STORAGE AREAS (SWMU 29) SURFACE SOIL SAMPLES
FIGURE 5-16-4

PROJECT NO. 2942.0140

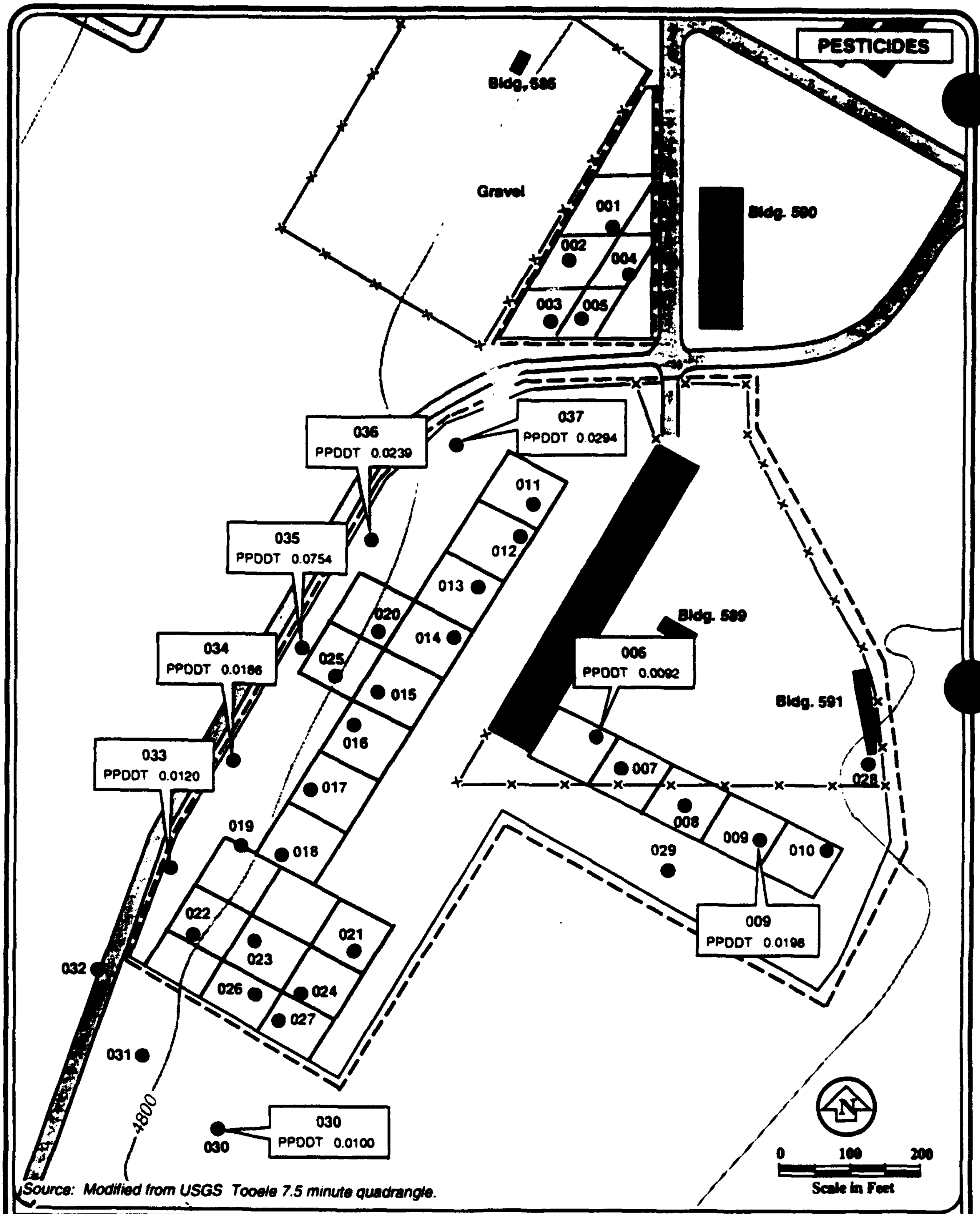


EXPLANATION

- – – Proposed SWMU area boundary
- x—x Fence
- 032 ● Deeper soil sample location (results in µg/g)

TEAD-N PHASE I RFI
DRUM STORAGE AREAS (SWMU 29) DEEPER SOIL SAMPLES
FIGURE 5-16-5

PROJECT NO. 2942.0140



EXPLANATION

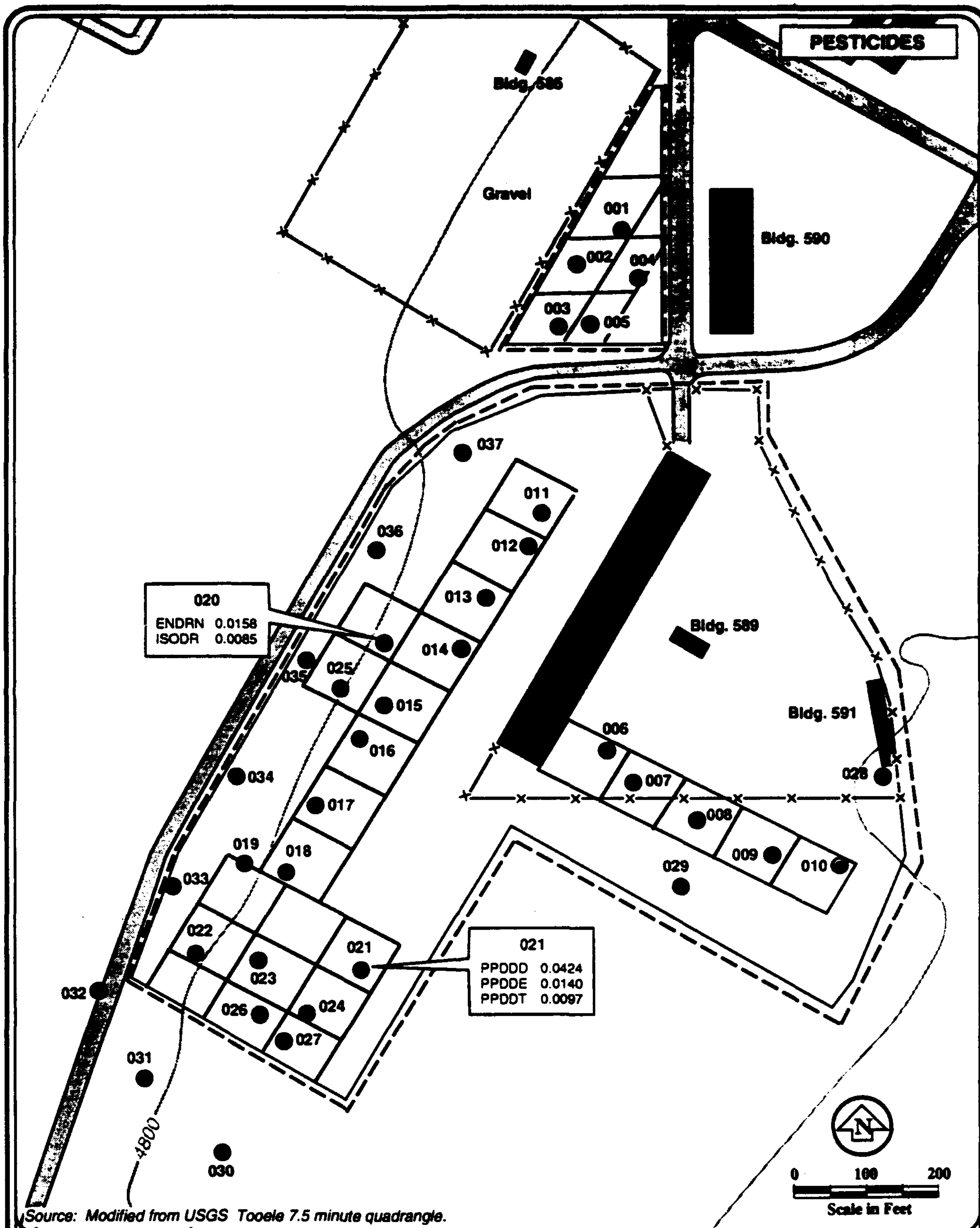
Proposed SWMU area boundary

Fence

032 Surface soil sample location (results in µg/g)

TEAD-N PHASE I RFI
DRUM STORAGE AREAS
(SWMU 29)
SURFACE SOIL SAMPLES
FIGURE 5-16-6

PROJECT NO. 2942.0140



EXPLANATION

- Proposed SWMU area boundary
- Fence
- 032 Deeper soil sample location (results in µg/g)

TEAD-N PHASE I RFI
DRUM STORAGE AREAS
(SWMU 29)
DEEPER SOIL SAMPLES
FIGURE 5-16-7

PROJECT NO. 2942.0140

5.16.4.2. VOCs detected in soils include hexane and toluene. The numerous hexane detections are likely laboratory contaminants and are not included in this contamination assessment. Also, detections of TRPH in deeper soils in soil borings SB-29-030 through SB-29-037 have been a qualified as "not detected" (ND) due to associated method blank contamination. SVOCs and TRPH concentrations are shown in Figures 5-16-4 and 5-16-5, respectively, for surface and shallow soil samples.

5.16.4.3. Five different pesticide compounds were identified in various surface and shallow soil samples as shown in Figures 5-16-6 and 5-16-7. None of the pesticide concentrations exceed the proposed Subpart S action levels of 2 to 3 μg/g for these compounds. All the surface soil samples collected from the area of the Maintenance and Supply Road ditch along the west side of the southern Drum Storage Area show detectable levels of DDT.

5.16.5. Recommendation

5.16.5.1. Based on the results of the Phase I RFI sampling, there is evidence that activities at the Drum Storage Yards have released contaminants to the environment. Therefore, it is recommended that this SWMU be included in the Phase II evaluations. See Section 6.0 for specific Phase II activities recommended for this SWMU.

5.17 PESTICIDE HANDLING AND STORAGE AREA (SWMU 34)

5.17.1. Site Description and Waste Generation

5.17.1.1. The Pesticide Handling and Storage Area is located in Building 518 in the Administration Area, in the southeastern portion of TEAD-N, and has been used for storing and handling pesticides since about 1942 (Smith, 1990). This facility is constructed of flame retardant material and has bermed, sealed, concrete floors. Pesticides, herbicides, and other poisons are stored in separate, vented, locked rooms. The mixing/formulation area is located in the building but separated from the storage area by bermed concrete. The facility is vented and equipped with backflow prevention devices on the water lines which feed the facility. In recent years, a bermed concrete pad for loading sprayer trucks has been added to the south side of the building. This facility is labeled and secured with a chain-linked fence (E. C. Jordan, 1989).

5.17.1.2. Activities associated with the building include storage and mixing/formulation of pesticides, filling tanks with pesticides, and rinsing containers. Pesticides and herbicides stored at this facility in the past included DDT, 2,4-D, and Roundup (NUS, 1987).

5.17.1.3. Drains from the building originally discharged via an 8-inch diameter underground pipe to the Stormwater Discharge Area (SWMU 45) located approximately 4,000 feet northwest of the building (Smith, 1990). Investigation of SWMU 45 is included as a separate task in this RFI. Currently there are no discharges from the Pesticide Handling and Storage Area. All drains have been blocked, and wash water is contained in a catch tank located on the north side of the building (Nichols, 1991).

5.17.2. Site Conditions

5.17.2.1. Soils beneath the Administration Area that contains the Pesticide Handling and Storage Area are composed of the silty and sandy gravels of the Abela Series (USSCS, 1991). The approximate depth to the regional water table is about 300 feet, and groundwater flows to the northwest (JMM, 1988). The depth of bedrock is approximately 1,300 feet bgs (ERTEC, 1982). Gravely fill has been imported to cover the surface soils that surround the facility.

5.17.3. Previous Sampling and Phase I RFI Sampling and Results

5.17.3.1. Because no previous investigations have been conducted at this SWMU, available data are limited to those collected during the Phase I RFI sampling program. During this program, six surface soil samples were collected from beneath discharge pipes on the fuel storage tank, mixing sink catch-tank, and from the concrete pad loading area. In addition, three samples were collected from other locations around the building. All samples were analyzed for pesticides, herbicides, cyanide, and metals. Contaminants detected during the Phase I RFI include elevated levels of all these analytes. Figure 5-17-1 presents a visual summary of the concentrations of these contaminants. Table 5-17, at the end of Section 5.0, is a summary in tabular form.

5.17.4. Contamination Assessment

5.17.4.1. Based on the results of the Phase I RFI sampling program, the pesticide and herbicide handling and storage at this facility has resulted in a release of contaminants to the nearby surface soils. Five of six soil samples contained elevated levels of metals, one

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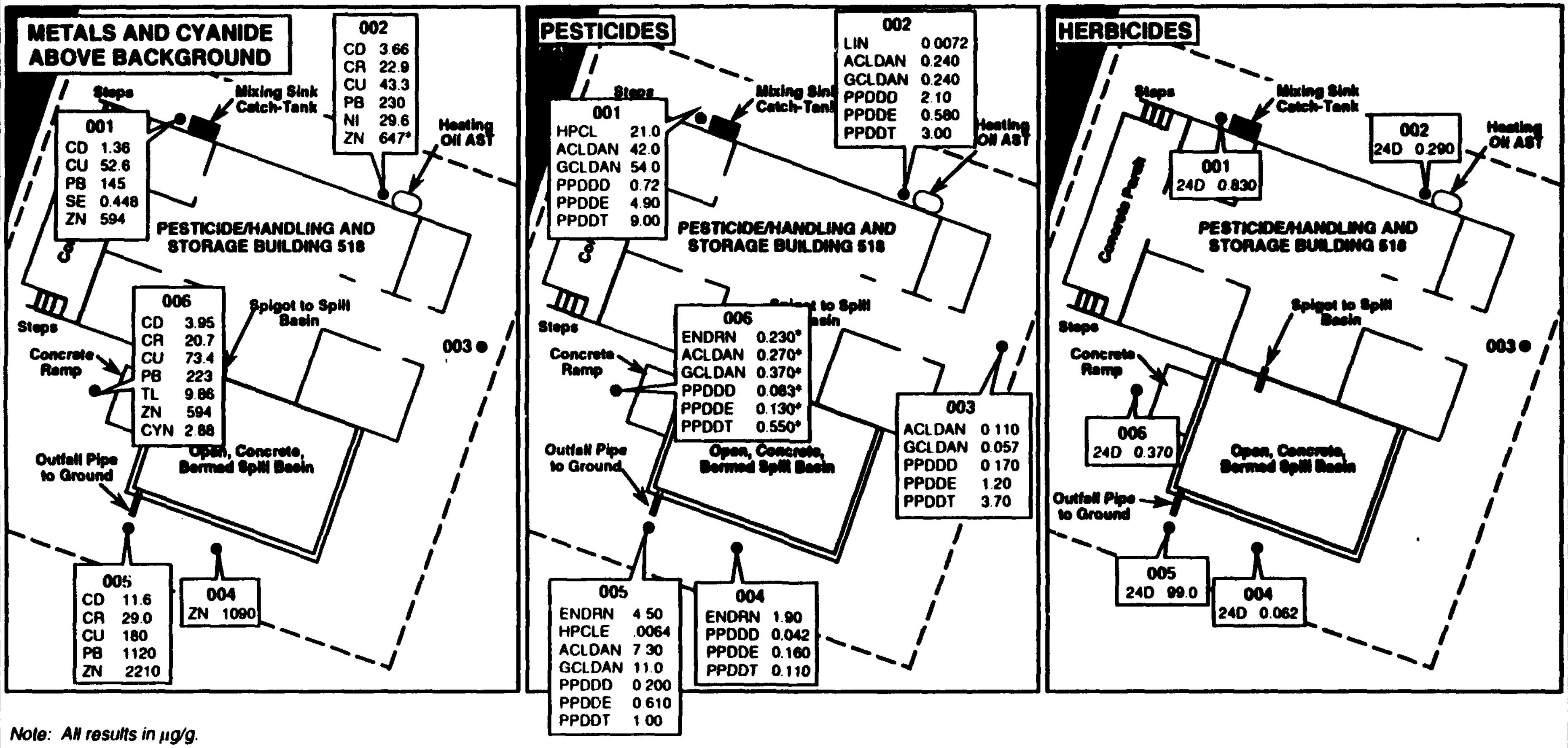
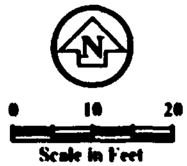


Note: All results in µg/g.

EXPLANATION

- – – Proposed SWMU area boundary
- 004 ● Surface soil sample location
- ⬭ Aboveground storage tank
- * Data considered estimated. Refer to Appendix C.



TEAD-N PHASE I RFI

PESTICIDE HANDLING AND STORAGE AREA (SWMU 34) SURFACE SOIL SAMPLES

FIGURE 5-17-1

contained an elevated level of cyanide. all six samples contained detectable concentrations of pesticides. and five of six samples contained elevated levels of the herbicide 2.4-D.

5.17.4.2. Elevated levels of metals included a concentration of lead at 1,120 µg/g. Ten different pesticides were detected at concentrations ranging from less than 0.1 µg/g to 54 µg/g. The highest concentrations of five of these pesticides were detected in one sample taken from beneath the mixing sink catch tank. In this sample, DDT was present at 9.0 µg/g. Herbicides detected were limited to 2,4-D, which was present in concentrations generally less than 1 µg/g. However, one sample collected from beneath a discharge pipe leading from the concrete pad loading area contained 99 µg/g of 2,4-D. For comparision, the proposed Subpart S action level for this compound is 800 µg/g.

5.17.4.3. Draft Subpart S action levels ranging from 0.2 to 2 µg/g were exceeded at SWMU 34 by detections of chlordane, heptachlor, DDT, and DDE. The sample containing the highest levels of pesticides was collected from next to the mixing sink catch tank along the north side of the building.

5.17.5. Recommendation

5.17.5.1. Based on the results of the Phase I RFI sampling, a release of contaminants from the Pesticide Handling and Storage Area has occurred. For this reason, it is recommended that this SWMU be included in the Phase II activities. Specific recommendations for Phase II activities at this SWMU are presented in Section 6.0 of this report.

5.18 CONTAMINATED WASTE PROCESSING PLANT (SWMU 37)

5.18.1. Site Description and Waste Generation

5.18.1.1. The Contaminated Waste Processing Plant (CWP) is an incinerator located in the southwestern portion of TEAD-N, southwest of the ordnance area. The CWP consists of one large building (Building 1325), another smaller storage building, and adjacent staging and storage areas. The furnace is fired by diesel oil from an underground storage tank located south of the building. Since its installation in approximately 1980, the CWP has been used primarily for flashing scrap metal and incinerating PCP-treated wooden crates, general packaging materials (dunnage), scrap resins, and fabric contaminated with explosives (Bishop, 1990). This furnace differs from the furnaces at the AED Deactivation Furnace (SWMU 20) and the Deactivation Furnace Building (SWMU 21) in that it is a batch-type

basket furnace rather than a rotary kiln. In addition. the CWP is not used for deactivating munitions. Air pollution control equipment. installed during construction of the furnace, consists of a cyclone. gas cooler, and baghouse.

5.18.1.2. When the CWP is operating, all metal debris are certified as clean and sent to the DRMO Storage Yard (SWMU 26) for salvage. Incinerator ash, cyclone dust. and baghouse dust are drummed as hazardous waste and sent to the 90-day Storage Yard (SWMU 28) pending analysis and disposal.

5.18.2. Site Conditions

5.18.2.1. The soils which underlie the CWP are composed of sands and silty sands (Jordan, 1989) and are believed to be of the Berent-Hiko Peak Complex. Much of the ground surface around the CWP is paved and surface water runs off toward the northeast. The depth of bedrock is approximately 500 feet bgs (ERTEC, 1982). The depth to groundwater is approximately 350 feet, and the direction of flow is toward the northeast (JMM, 1988).

5.18.3. Previous Sampling and Phase I RFI Sampling and Results

5.18.3.1. Previous Investigations. Previous investigations at the CWP were limited to analysis of cyclone/baghouse dust and/or incinerator ash. Analyses of these wastes indicated that concentrations of lead and cadmium both exceeded the threshold for characterizing a waste as hazardous based on toxicity (Bishop, 1990). In addition to the metals, dioxins and furans were found in ash and dust in the air pollution control system after burning PCP-treated wood (AEHA, 1989). Pentachlorophenol (PCP) was detected in all samples of baghouse dust but not in the furnace ash. Although the presence of dioxins and furans has been confirmed in the PCP-treated wood prior to incineration, it appears that the incineration process produces dioxins and furans. While the total levels of PCPs were high in the ash and dust, there were no detectable concentrations of PCP in the TCLP extracts (AEHA, 1989).

5.18.3.2. Phase I RFI Sampling and Results. The Phase I RFI sampling program consisted of collecting 12 surface soil samples from locations around the outside perimeter of the CWP and from areas with exposed soil immediately adjacent to the building. All samples were analyzed for metals, VOCs, SVOCs, explosives, and dioxins/furans.

5.18.3.3. Contaminants detected by the Phase I RFI sampling program include elevated levels of several metals, dioxins/furans, SVOCs, xylene, TNT, and nitrate and total phosphate. Figure 5-18-1 presents a visual summary of these contaminants. These data are also presented in Table 5-18 at the end of Section 5.0, which is a summary of all the analyses.

5.18.4. Contamination Assessment

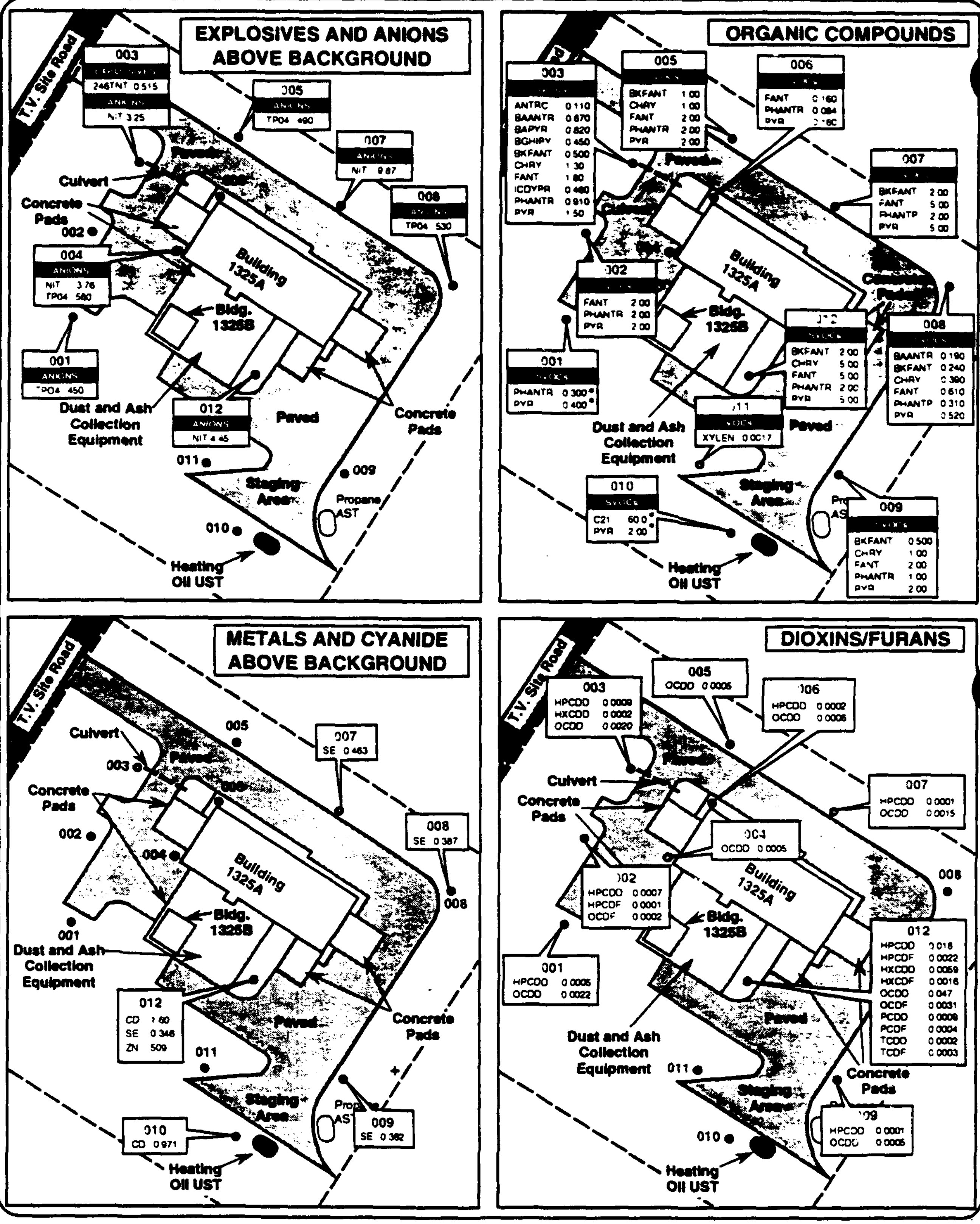
5.18.4.1. Based on the results of the Phase I RFI sampling program, it is apparent that various types of contaminants have been released to the surface soils from SWMU 37. One sample contained a detectable concentration of the explosive 2,4,6-TNT, while seven samples contained elevated levels of anions including nitrate and phosphates. Numerous SVOCs were detected in 11 of the 12 surface soil samples ranging in concentrations from about 0.1 μg/g to 5.0 μg/g. The SVOCs detected were PAHs which are commonly found in incinerator ash. One sample contained a detectable level of xylene and another heneicosane. Both of these samples were collected from the southern end of the facility in the vicinity of the underground fuel storage tank and their presence is likely to be related to fuel spills in this area.

5.18.4.2. Elevated levels of metals were generally low (less than two times the background thresholds established for Phase I) and detected in only five of 12 samples taken from the facility. Elevated metals detected include cadmium, lead, selenium, and zinc.

5.18.4.3. Detectable levels of PCDDs/PCDFs were also present in nine of the 12 surface soil samples collected. Concentrations of the dioxins and furans detected were generally low (less than one ppb) with several exceptions, which ranged up to 47 ppb for the OCDD isomer. Only one sample contained a detectable concentration (0.0002 μg/g) of the most toxic 2, 3, 7, 8-TCDD isomer, which was well below the one ppb level. One dioxin isomer, hexachlorodibenzo-p-dioxin (HXCDD), is included in the draft Subpart S action levels, with the action level proposed for this compound in soil set at 1×10^{-4} (.0001) mg/kg, or 0.1 ppb. Two soil samples from SWMU 37 showed concentrations of HXCDD greater than this level.

5.18.5. Recommendation

5.18.5.1. Based on the results of the Phase I RFI sampling, it appears that the incineration activities at SWMU 37 have released contaminants to the environment. Contaminants of concern at this SWMU include PCDDs/PCDFs and SVOCs. For this reason, it is



Note: All results in µg/g.

EXPLANATION

- Proposed SWMU area boundary
- 004 ● Surface soil sample location
- Aboveground storage tank
- Underground storage tank
- * Data considered estimated. Refer to Appendix C.

0 10 20 30 40 50
Scale in Feet

N

TEAD-N PHASE I RFI
CONTAMINATED WASTE PROCESSOR (SWMU 37)
SURFACE SOIL SAMPLES
FIGURE 5-18-1

PROJECT NO. 2942.0140

recommended that SWMU 37 be included in the Phase II activities. Specific recommendations for Phase II activities are included in Section 6.0.

5.19 INDUSTRIAL WASTEWATER TREATMENT PLANT (SWMU 38)

5.19.1. Site Description and Waste Generation

5.19.1.1. Operation of the Industrial Wastewater Treatment Plant (IWTP) began in November 1988. This facility handles an average of about 116,000 gallons of wastewater daily (gpd). Of this total, an average of 103,000 gpd of wastewater is recycled, and the remaining wastewater is discharged to the Tooele publicly-owned treatment works (Kinsinger, 1989). Treatment at the IWTP includes air strippers for VOCs, a flocculator and clarifier for settling out metals, sand filters for filtering solids, and granular activated carbon (GAC) to remove VOCs and SVOCs. During about a one-year period when the facility first opened, shipping containers in which spent GAC was stored were left uncovered, and it was blown onto nearby surface soils along the west side of the facility.

5.19.2. Site Conditions

5.19.2.1. Soils that underlie the IWTP are composed of the silty and sandy gravels of the Abela Series (USSCS, 1991). Bedrock is estimated to be greater than 1,000 feet bgs (ERTEC, 1982). The regional water table is estimated to be about 280 feet bgs, and the direction of groundwater flow is toward the northwest (JMM, 1988).

5.19.3. Previous Sampling and Phase I RFI Sampling and Results

5.19.3.1. Previous Investigations. Previous investigations at this SWMU were limited to analyses of the spent GAC from storage containers. These analyses showed elevated levels of VOCs, including 1,1,1-trichloroethane, methylene chloride, and 1,2-dichlorobenzene. SVOCs detected included 2,4,6-trichlorophenol, 2-chlorophenol, 2-nitrophenol, 4-nitrophenol, and bis(2-ethylhexyl) phthalate. In addition, leachable concentrations of barium and cadmium were detected according to the EP Toxicity analysis (EMO, 1989).

5.19.3.2. Phase I RFI Sampling and Results. Five samples were collected from the IWTP. Four of these were taken from surface soils on the west side of the plant, and the remaining sample was of spent GAC collected from a shipping container stored in the area. The soil and GAC samples were analyzed for metals, VOCs, and SVOCs. The sample of GAC

was also analyzed for toxicity characteristics for metals, VOCs, and SVOCs according to the TCLP method.

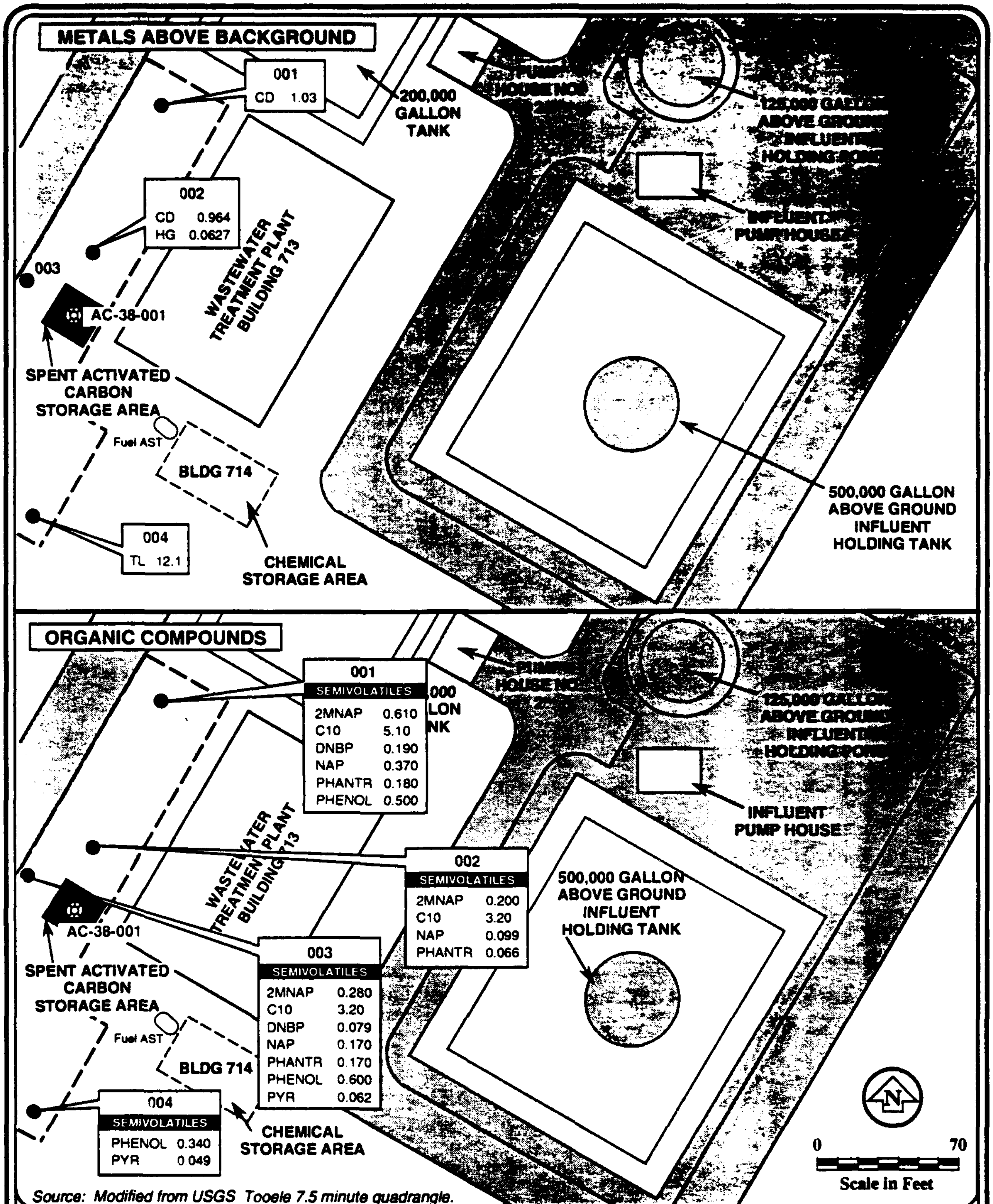
5.19.3.3. Contaminants detected in the surface soils around the west side of the IWTP included VOCs, SVOCs, and three metals. These results are shown in Figure 5-19-1. Small amounts of two Freon (TCF) compounds detected in soil sample 001 have not been included in the contamination assessment, as they are probably a result of lab contamination. Figure 5-19-2 presents the results of analyses of the spent GAC stored at the site. Analysis of the GAC by TCLP revealed detectable concentrations of barium, cadmium, and lead; one SVOC and one VOC were also present in extract from the sample. However, all concentrations are below the regulatory limits for a characteristic hazardous waste. Results of analyses of the GAC for total metals, VOCs and SVOCs confirmed the presence of numerous metals and organic compounds. Table 5-19, at the end of Section 5.0, contains a summary of the analytes detected in the four surface soil samples and the one sample of GAC.

5.19.4. Contamination Assessment

5.19.4.1. Based on the results of the Phase I RFI sampling program, it appears that low levels of several metals and SVOCs have been released to the surface soils on the west side of SWMU 38. Metals detected include cadmium, lead, and mercury. SVOCs detected include several phenols, dodecane, several PAHs, and numerous tentatively identified compounds. The presence of these compounds is consistent with those present in the spent GAC, which is the most likely source of the contamination in the nearby surface soils. None of the detected analytes in the soil samples exceed proposed Subpart S soil action levels where they have been established.

5.19.5. Recommendation

5.19.5.1. Based on the results of the Phase I RFI sampling, it appears that several contaminants, mainly semi-volatile organic compounds, have been released to the surface soils in the vicinity of the spent GAC containers. For this reason, it is recommended that this SWMU be included in the Phase II evaluations. Specific recommendations are included in Section 6.0.



Source: Modified from USGS Tooele 7.5 minute quadrangle.

EXPLANATION

- – – Proposed SWMU area boundary
- 004 ● Surface soil sample location
- AC-38-001 ⊛ Spent carbon sample location
- ⬭ Aboveground storage tank

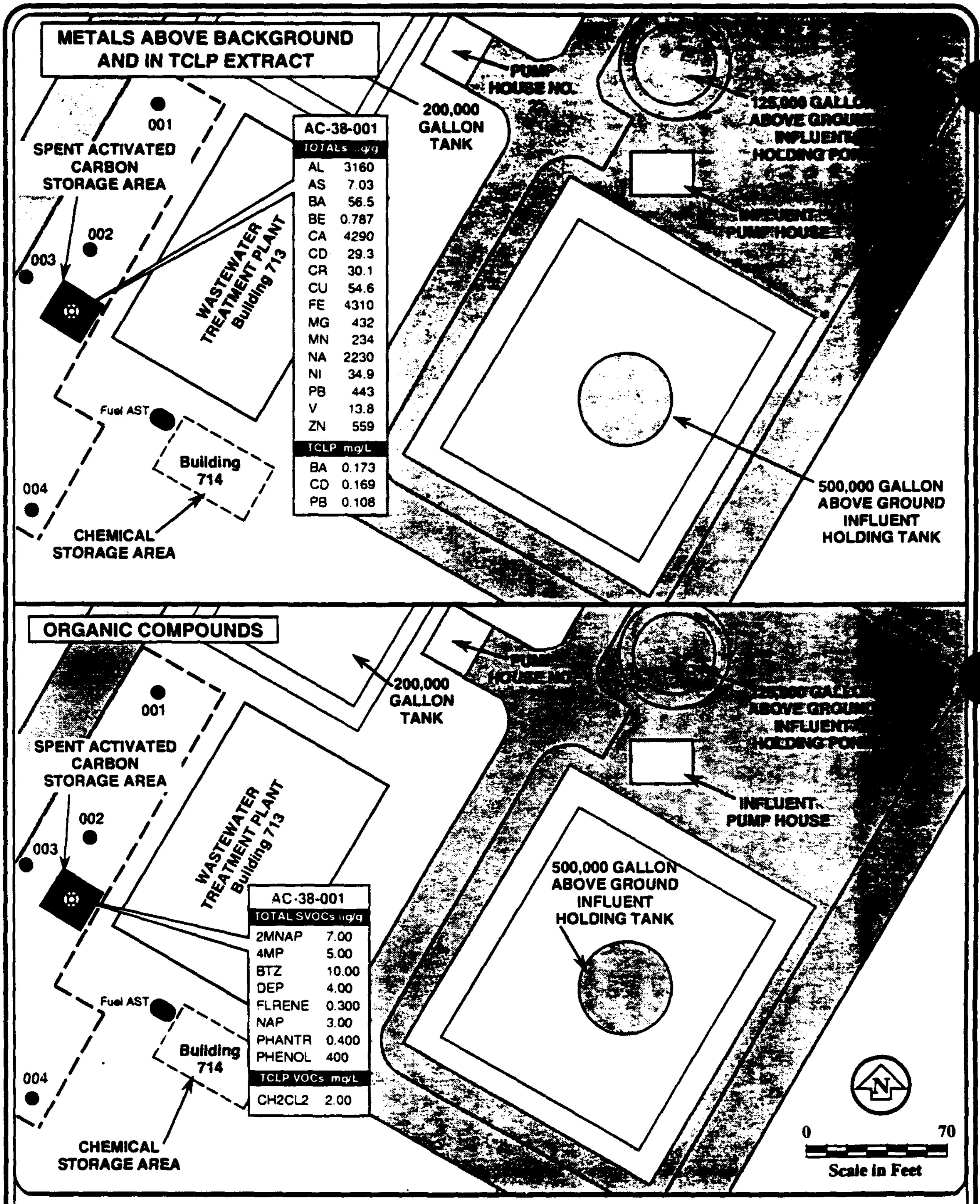
Note: All results in µg/g.

TEAD-N PHASE I RFI

INDUSTRIAL WASTE TREATMENT PLANT (SWMU 38) SURFACE SOIL SAMPLES

FIGURE 5-19-1

PROJECT NO. 2942.0140



AC-38-001	
TOTALs µg/g	
AL	3160
AS	7.03
BA	56.5
BE	0.787
CA	4290
CD	29.3
CR	30.1
CU	54.6
FE	4310
MG	432
MN	234
NA	2230
NI	34.9
PB	443
V	13.8
ZN	559
TCLP mg/L	
BA	0.173
CD	0.169
PB	0.108

AC-38-001	
TOTAL SVOCs µg/g	
2MNAP	7.00
4MP	5.00
BTZ	10.00
DEP	4.00
FLRENE	0.300
NAP	3.00
PHANTR	0.400
PHENOL	400
TCLP VOCs mg/L	
CH2CL2	2.00

Source: Modified from USGS Tooele 7.5 minute quadrangle.

EXPLANATION

- — — Proposed SWMU area boundary
- 004 ● Surface soil sample location
- AC-38-001 ⊛ Spent carbon sample location

TEAD-N PHASE I RFI

INDUSTRIAL WASTE TREATMENT PLANT (SWMU 38)

SPENT ACTIVATED CARBON SAMPLE

FIGURE 5-19-2

PROJECT NO. 2942.0140

5.20 SOLVENT RECOVERY FACILITY (SWMU 39)

5.20.1. Site Description and Waste Generation

5.20.1.1. The solvent recovery facility (Building 600c), is located on the west side of the TEAD-N Maintenance area. The facility was built in October 1988 and formerly received up to 10,500 gallons of waste solvents for processing, with a certain percentage of waste solvents rejected due to potential processing problems. Of this, approximately 7,100 gallons of solvents were recovered while 2,100 to 2,250 gallons of waste were generated. Solvents that are currently recycled include: 1,1,1-trichloroethane, Stoddard solvent, polyurethane thinner, and lacquer thinner. Due to a reduced work load and waste minimization procedures, a total of 1,573 gallons of waste solvent were processed in 1992, with 1,294 gallons recovered and only 279 gallons of waste generated (Fisher, 1993).

5.20.1.2. The facility contains pumps, a distillation unit, a condenser, and associated equipment for pumping waste solvents from drums and separating solvent from sludge (still bottoms). The building has explosion protection and is bermed on the inside to contain spills. The floor is equipped with drains that would direct spills to the IWTP.

5.20.1.3. According to TEAD-N and employees, solvents treated at this facility are first taken to the 90-Day Storage Area (SWMU 28) for inspection to determine if they are suitable for recycling (Nash, 1992). Drums containing recyclable solvents are transported to the Solvent Recovery Facility for treatment. Recyclable solvents are passed through a filter system followed by a distillation unit. The still bottoms are drummed and temporarily stored in a fenced satellite area which is a bermed concrete pad outside the building. The stored still bottoms are collected and disposed of by a hazardous waste contractor. There have been no spills of reportable quantities at this facility.

5.20.2. Site Conditions

5.20.2.1. Soils beneath the solvent recovery facility are of the Abela Series consisting of silty and sandy gravels and coarse gravels. The depth to bedrock is approximately 1,000 feet bgs (ERTEC, 1982). The depth to groundwater is estimated to be about 300 feet bgs, and the direction of groundwater flow is toward the northwest (JMM, 1988).

5.20.3. Contamination Assessment and Recommendation

5.20.3.1. Because this facility is new, equipped with adequate containment features. and there have been no spills of reportable quantities it is very unlikely that there is any environmental contamination resulting from waste handling or storage practices at this facility. For this reason. no sampling was conducted and, unless the waste handling practices change, no further actions are recommended at this SWMU.

5.21 BOMB WASHOUT BUILDING (SWMU 42)

5.21.1. Site Description and Waste Generation

5.21.1.1. The Bomb Washout Building (Building 539) is located in the southeastern portion of TEAD-N, between the Maintenance Area and the Administration Area. The history and description of this facility were compiled from communications with TEAD-N personnel (Mascarenas, 1990, and Clark, 1990). Building 539 has recently been renovated and now serves as a vehicle wash facility. Between the early 1940s and early 1960s, projectiles from small arms munitions (30 and 50 caliber) were burned in a retort furnace located in this building. Molten lead was reclaimed during the process from beneath the furnace.

5.21.1.2. During the operation, waste from the incineration and lead reclamation process consisted of smoke and ash from the furnace and spilled molten lead. When the building was cleaned, wash water discharged via a steel-lined concrete flume which extended from the northeast corner of the building. The flume ran east-west about 10 feet north of the building and discharged into an open ditch. Although the building has recently been renovated, the ditch is still present and extends approximately 600 feet west into an unlined holding pond, which is also still present.

5.21.1.3. During operation, the furnace generated significant concentrations of visible smoke (Mascarenas, 1990). Because no air emission control devices were installed on the smoke stack, heavy particulates from the smoke settled out onto a "drop-out box" located on the roof of the building. This process also released airborne contaminants to the air during the operation of this furnace. The furnace was dismantled around 1960, and the building used for storage until recently. The area around the building is paved, although the pavement is broken in places and its age is unknown. There was a second furnace located approximately 225 feet north of Building 539. This furnace, not enclosed inside a building or covered, was used to incinerate fuses and other small munitions. This furnace was reportedly about the

same size as the one in Building 539, and operated during the same time period (early 1940s to early 1960s)(Mascarenas, 1990).

5.21.2. Site Conditions

5.21.2.1. Surface soils present in the vicinity of SWMU 42 are silty sands and sandy silts of the Medburn Series (USSCS, 1991). Bedrock is approximately 1,500 feet bgs in this area (ERTEC, 1982). Based on water levels in the area, the depth to groundwater is expected to be approximately 385 feet bgs, and the direction of flow is toward the northwest (Jordan, 1990). Surface water run-off from the vicinity discharges to the open areas west of SWMU 42.

5.21.3. Previous Sampling and Phase I RFI Sampling and Results

5.21.3.1. Previous Investigations. On March 2, 1990, the TEAD environmental office (EMO) collected six samples of soil and one of waste from Building 539 and the associated ditch and evaporation pond area. All the samples were analyzed for total metals, total organic halogens, VOCs and RCRA characteristics for toxicity, reactivity, corrosivity (pH), and ignitability.

5.21.3.2. None of the samples contained detectable levels of total organic halogens nor VOCs. Several metals including barium, cadmium, chromium, lead, mercury, nickel, and silver were detected at concentrations that exceeded a background sample by an order of magnitude or more. A sample of waste from the "drop-out box" contained high concentrations of barium, cadmium, chromium, lead, mercury, nickel, and silver. Of these, the lead was present at nearly seven percent. All samples collected from the ditch and holding pond areas contained elevated levels of metals exceeding those in a background soil sample collected nearby. Four samples taken from the holding pond and ditch areas exhibited the characteristics of a hazardous waste based on barium and lead concentrations.

5.21.3.3. Phase I RFI Sampling and Results. An extensive surface and shallow soil sampling program was conducted in the vicinity of the Bomb Washout Building. During this program, thirteen 5-foot deep soil borings were drilled and sampled at two intervals each, and eight surface soil samples were collected. Soil samples collected from the 5-foot borings were taken from the ground surface and from the total depth (5 feet). All samples were analyzed for metals and explosives compounds.

5.21.3.4. The results of the surface soil sampling are illustrated in Figure 5-21-1, which shows that all the surface soil samples in the vicinity of SWMU 21 contained elevated levels of one or more metals. In addition, elevated levels of cyanide were present at three locations and detectable concentrations of two dinitrotoluene (DNT) isomers were also present. The results of shallow soil samples collected from the same area are illustrated in Figure 5-21-2. These show that elevated levels of metals were also present at 5 feet bgs. While no cyanide was detected above background levels, one sample did contain detectable concentrations of two DNT isomers. The analytical results from this SWMU are also presented in Table 5-21, at the end of Section 5.0.

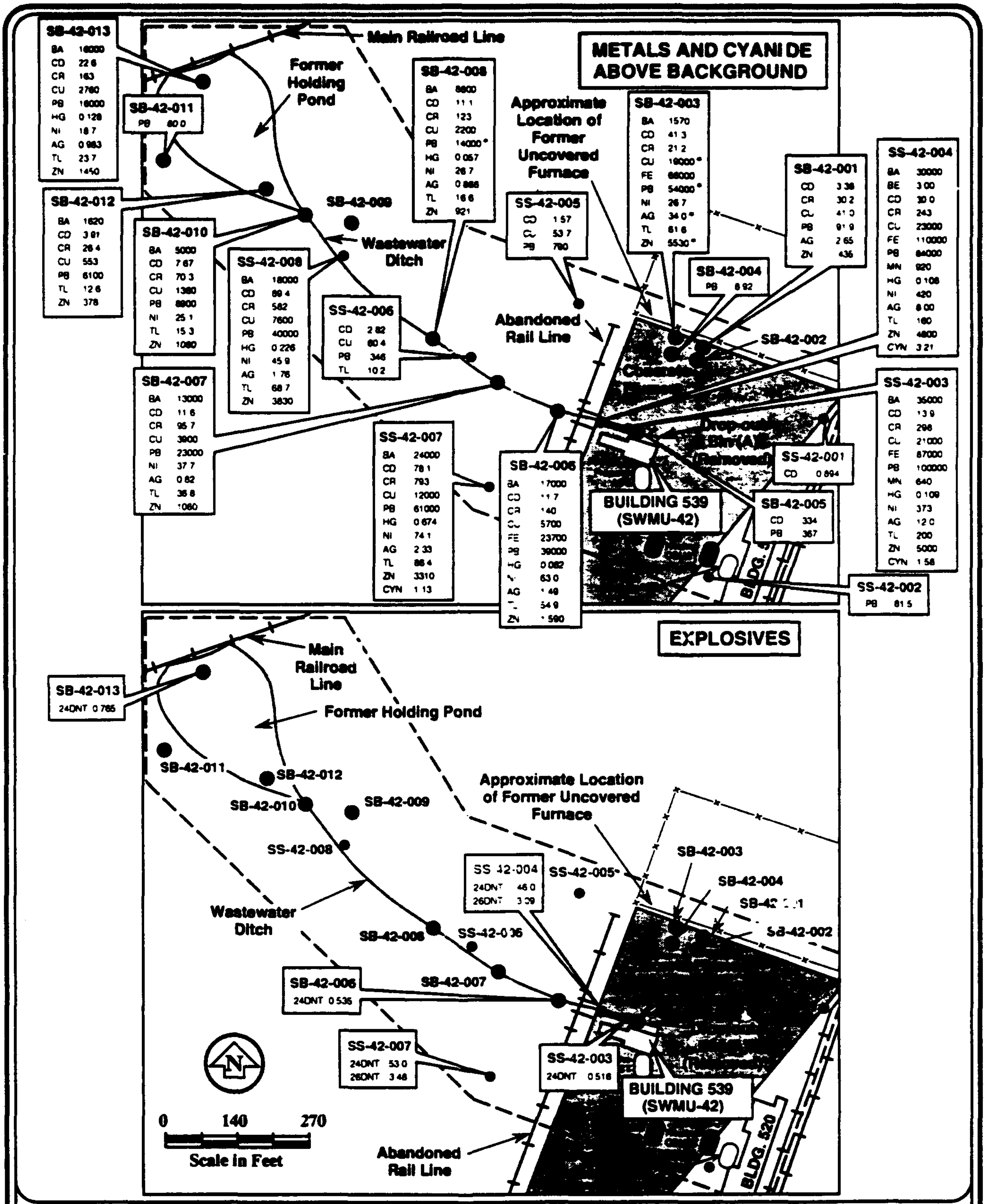
5.21.4. Contamination Assessment

5.21.4.1. Surface Soils. Based on the results of the previous sampling conducted by TEAD and the Phase I RFI sampling program, it is apparent that both metals and explosives have been released to the soils in the vicinity of SWMU 42. As shown in Figure 5-21-1, elevated metals in surface soils range up to 100,000 µg/g (10 percent) for lead and 18,000 (1.8 percent) for barium. The highest concentration of cadmium detected was 41.3 µg/g while chromium ranged up to 298 µg/g. Elevated concentrations of numerous other metals were also present.

5.21.4.2. The concentrations of explosives detected were limited to two isomers of dinitrotoluene. Concentrations of 2,4-DNT ranged up to 53 µg/g while the less common 2,6-DNT ranged up to 3.48 µg/g.

5.21.4.3. Shallow Soils. Concentrations of contaminants detected in shallow soil samples (5 feet deep), as illustrated in Figure 5-21-2, show that elevated levels of metals were present at this depth. The metals concentrations at 5 feet are generally less than those in the surface soils and appear to be limited to beneath the ditch and former evaporation pond and beneath the former location of the second furnace. While no elevated concentrations for cyanide were present at depth, one sample did contain elevated levels of the two DNT isomers at 5 feet. These results imply that water has caused metals to infiltrate beyond the depths investigated during the Phase I study.

5.21.4.4. Action levels proposed in the draft Subpart S regulations were exceeded by detections of cadmium, barium, and 2,6-dinitrotoluene (40 µg/g, 4000 µg/g and 1.0 µg/g, respectively) in both surface and subsurface samples. In addition, concentrations of 2,4-dinitrotoluene exceeded the health-based criteria of 1.0 µg/g for this compound. The high levels of lead in surface and sub-surface soils here may also pose a potential risk to human and environmental health.



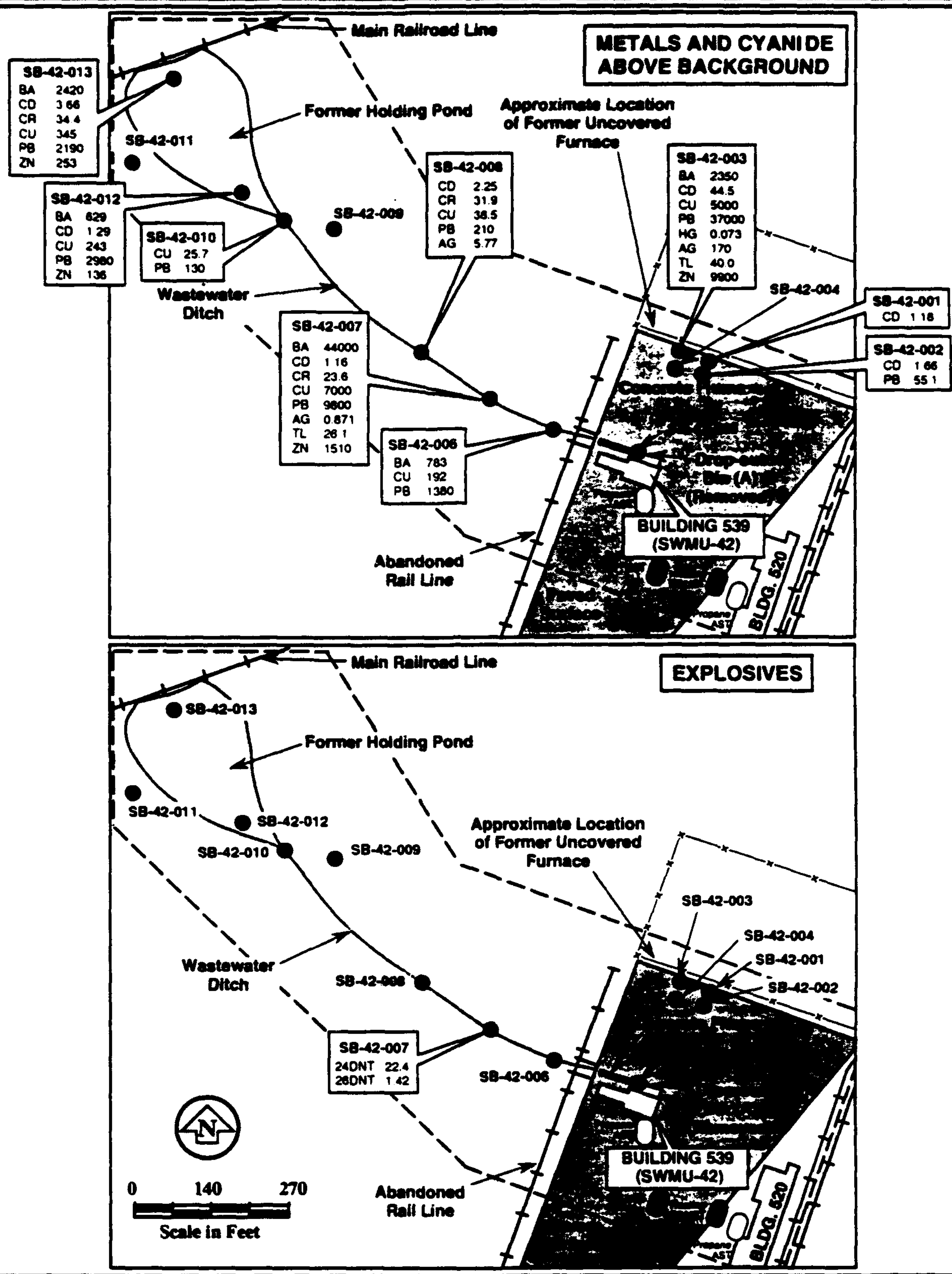
PROJECT NO. 2942.0140

Note: All results in µg/g.

EXPLANATION

- Proposed SWMU area boundary
- Soil boring location
- Surface soil sample location
- * Data considered estimated. Refer to Appendix C.
- Aboveground storage tank
- Underground storage tank
- Railroad line
- Fence

TEAD-N PHASE I RFI
BOMB WASHOUT BUILDING (SWMU 42) SURFACE SOIL SAMPLES
FIGURE 5-21-1



Note: All results in µg/g.

EXPLANATION

- — — Proposed SWMU area boundary
- SB-42-013 ● Soil boring location
- ┼┼ Railroad line
- -x—x- Fence
- Aboveground storage tank
- Underground storage tank

TEAD-N PHASE I RFI

BOMB WASHOUT BUILDING (SWMU 42) SHALLOW SOIL SAMPLES

FIGURE 5-21-2

PROJECT NO. 2942.0140

5.21.5. Recommendation

5.21.5.1. Based on the preceding discussions, it appears that a release of contaminants has occurred from SWMU 42, and it is recommended that this SWMU be included in the Phase II activities. Specific recommendations for Phase II are included in Section 6.0.

5.22 CONTAINER STORAGE AREAS FOR P999 AND MUSTARD AGENT-FILLED MORTAR ROUNDS (SWMU 43)

5.22.1. Site Description and Waste Generation

5.22.1.1. Eighteen storage igloos located in the ammunition storage area are included in this SWMU. Twelve of these igloos were used between 1953 and 1977 to store eight lots of mustard agent-filled 4.2 inch mortar rounds. The other six storage igloos were used between 1985 and 1989 to store M55 rocket parts and fuses for rocket assessment tests. Because the M55 rockets are the type used to transport chemical warfare agents, concern regarding the potential for environmental contamination from these rockets as well as the mortar rounds caused the associated storage igloos to be classified as a SWMU.

5.22.1.2. Each storage igloo measures approximately 60 feet x 26 feet and is constructed from concrete and steel with a soil and grass covering. Roads servicing the igloos and the driveways leading up to the entrances are paved. Inside the igloos, troughs (one along each wall) empty into floor drains. The drains discharge to the soils beneath and are not connected to any treatment system. although no liquids have been used in the igloos.

5.22.2. Site Conditions

5.22.2.1. Soils beneath the ammunition storage igloos are composed of silty sands and sandy silts of the Medburn Soil Series (USSCS, 1991). The depth of bedrock is estimated to be approximately 1,500 feet bgs in this area (ERTEC, 1982). Based on groundwater elevations available in the vicinity of the storage igloos, groundwater is approximately 350 to 450 feet bgs and flows toward the north (JMM, 1988).

5.22.3. Contamination Assessment and Recommendation

5.22.3.1. No environmental sampling was conducted in the vicinity of the storage igloos included in SWMU 43 because a review of available records and an interview with

knowledgeable personnel (Serreyn, 1992) found no indications that mustard agent leaked from any of the 4.2-inch mortar rounds while stored in the north area. In addition, because the M55 rocket components stored in the other igloos did not contain or contact chemical agents or warheads, there is no reason to believe that contaminants have been released to the environment from these storage facilities. Consequently, no further action is recommended for this SWMU.

5.23 TANK STORAGE FOR TRICHLOROETHYLENE (SWMU 44)

5.23.1. Site Description and Waste Generation

5.23.1.1. From 1971 to 1984, the southern end of Building 620 in the Maintenance Area contained an above-ground 500-gallon trichloroethylene storage tank. The trichloroethylene was used as a degreaser to clean small arms, ammunition, gears, and small metal parts. The tank was emptied about once a week during its heaviest usage (in the 1970s) and drained into the industrial sewers connected to the Industrial Wastewater Lagoon (IWL). In 1984, usage of the tank was discontinued but it was left in the building. In April 1991, the tank was turned over to the DRMO yard for salvage (Siniscalchi, 1991).

5.23.2. Site Conditions

5.23.2.1. Soils beneath the maintenance area are the silty gravels of the Abela Series (USSCS, 1991). Depth to bedrock is estimated to be between 300 to 500 feet bgs and the depth of groundwater is estimated to be about 300 feet bgs (JMM, 1988). Groundwater flow beneath the maintenance areas is toward the northwest.

5.23.3. Contamination Assessment and Recommendation

5.23.3.1. Waste from the TCE storage tank was emptied into the IWL outfall ditches and lagoon, which have been excavated and capped. Remediation of the contaminated groundwater associated with the IWL is underway. Because neither the tank nor contamination originating from the tank remains at the site, no further action is recommended for this SWMU.

5.24 STORMWATER DISCHARGE AREA (SWMU 45)

5.24.1. Site Description and Waste Generation

5.24.1.1. The Stormwater Discharge Area is located midway between the Maintenance and Administration Areas immediately north of a set of railroad tracks. Stormwater from the Administration Area drains via an underground concrete piping system to a depression in a dry wash, where it discharges to form a small pond. The presence of phreatophytes around the pond indicates saturated soil conditions exist throughout the year.

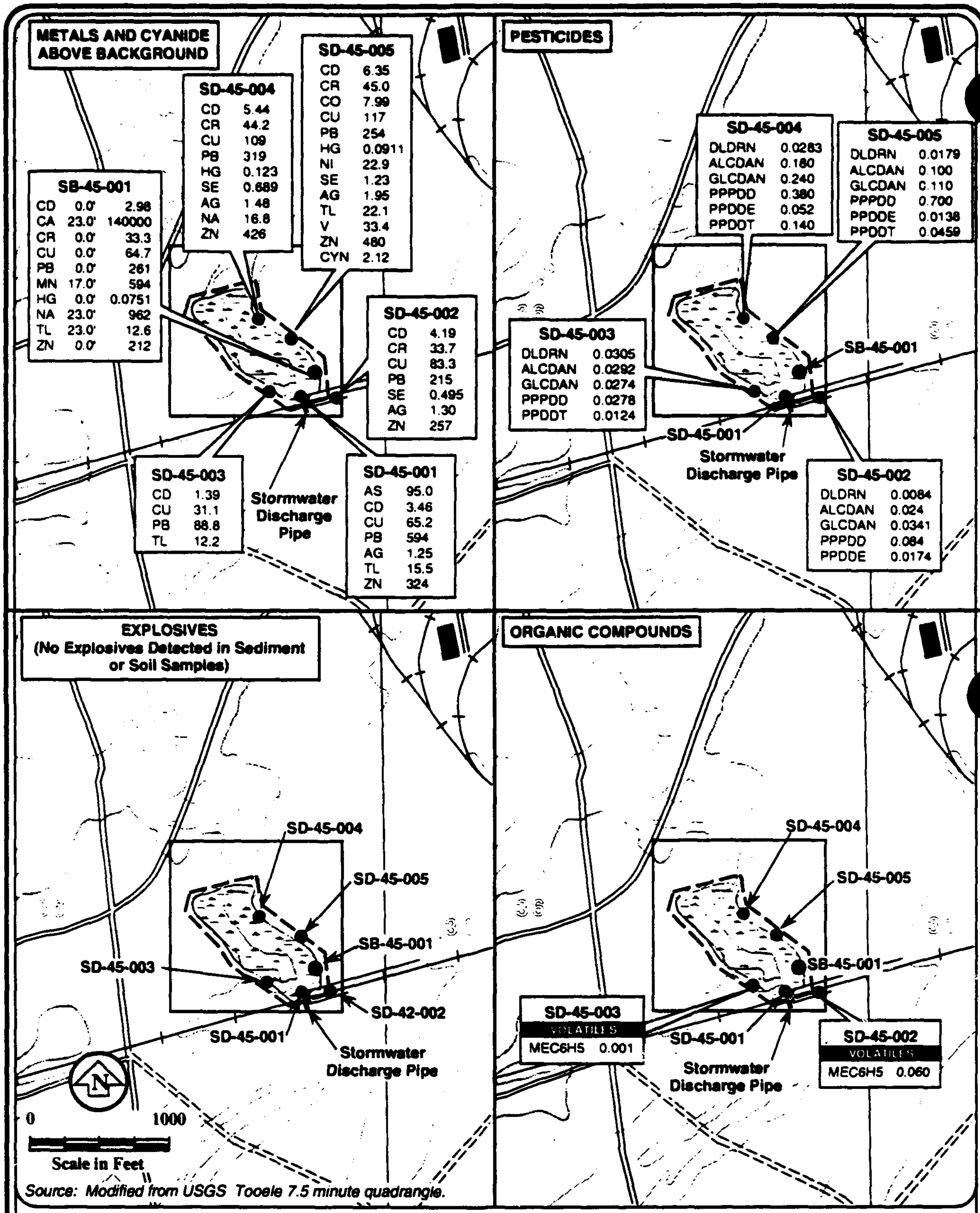
5.24.2. Site Conditions

5.24.2.1. Surface soils in the Stormwater Discharge Area consist of the silty and sandy gravels assigned to the Abela Series (USSCS, 1991). Depth of bedrock is unknown. although based on information from nearby monitoring wells it is probably greater than 500 feet bgs. Depth to groundwater is approximately 300 feet bgs, and it flows toward the northwest.

5.24.3. Previous Sampling and Phase I RFI Sampling and Results

5.24.3.1. Previous Investigations. Surface water and sediment samples were collected in July 1990 by the TEAD environmental office. The surface water contained 10 μg/L of methylene chloride, and the sediment sample contained 40 μg/kg of methylethyl ketone, 350 μg/kg of methylisobutyl ketone, and 1,175 μg/kg methylene chloride. Potential sources of these contaminants include the carpenter shop, sign shop, motor pool, rail shop, and Pesticide Handling and Storage Area (SWMU 34) located in the Administration Area.

5.24.3.2. Phase I RFI Sampling and Results. Three surface water samples and five sediment samples were collected from the area where ponded water was present. Surface water samples were analyzed for VOCs, SVOCs, metals (including major cations and cyanide), and explosives. The sediment samples were analyzed for the same constituents as well as pesticides. In addition, to evaluate the potential for vertical contaminant migration, a 25-foot deep soil boring was drilled and sampled as close to the ponded water as possible. Seven samples from the boring were analyzed for VOCs, SVOCs, metals, and explosives. The results of the sediment and soil sampling are presented in Figure 5-24-1 and results of the surface water sampling are presented in Figure 5-24-2. A tabular summary of the analytical results is also included at the end of Section 5.0 in Table 5-24.



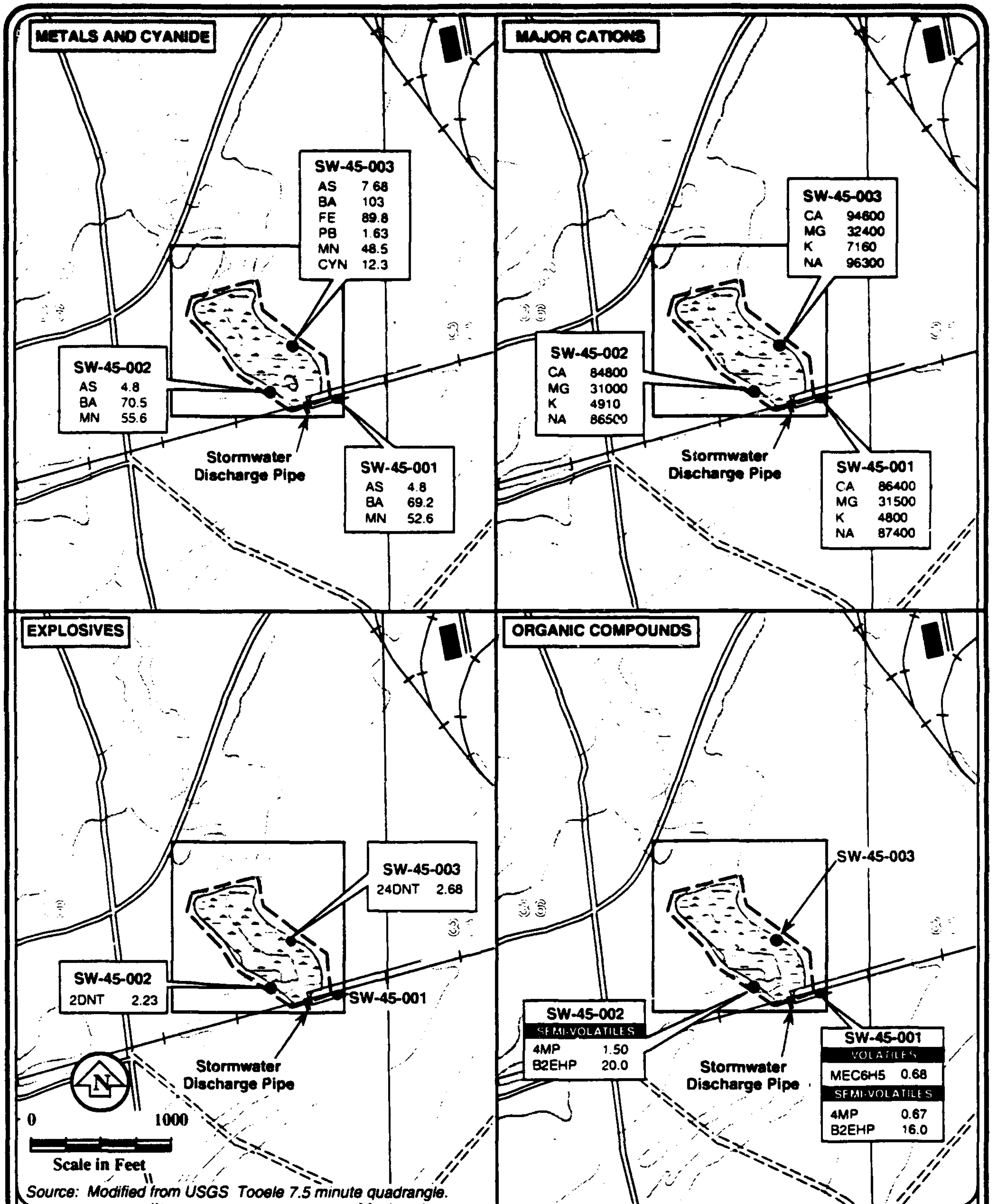
EXPLANATION

- – – Proposed SWMU area boundary
- ● Sediment sample location
- Railroad tracks
- ● Deeper soil sample location

Note: All results in µg/g.

TEAD-N PHASE I RFI
STORMWATER DISCHARGE AREA (SWMU 45) SEDIMENT AND SOIL SAMPLES
FIGURE 5-24-1

PROJECT NO. 2942.0140



EXPLANATION

- Proposed SWMU area boundary
- Railroad tracks
- Surface water sample location

Note: All results in µg/L.

TEAD-N PHASE I RFI
STORMWATER DISCHARGE AREA (SWMU 45) SURFACE WATER
FIGURE 5-24-2

PROJECT NO. 2942.0140

5.24.4. Contamination Assessment

5.24.4.1. Based on the results of both the previous investigation and the Phase I RFI sampling program, it appears that contaminants have been released to both the surface water and sediment in the Stormwater Discharge Area. In the sediments, slightly elevated concentrations of numerous metals were present when compared to the background thresholds for soils. In addition, a detectable concentration of numerous pesticides, including DDT, and degradation products of pesticides were present. Concentrations of volatile organics and semi-volatile organics were limited to two low concentrations of toluene. No explosives were detected in the sediment samples. Samples collected from the soil boring indicated that the greatest concentrations of metals were present in the surface soils and concentrations generally decreased with depth with several exceptions. These exceptions included both sodium and thallium, which were detected at the greatest concentrations at the total depth (25 feet) of the borehole. Reported detections of two phthalate compounds in soil samples from the borehole are considered lab contaminants, and not included in this contamination assessment. None of the analytes detected in the sediment exceeded the proposed Subpart S action levels for soils.

5.24.4.2. Concentrations of contaminants in the three surface water samples were below MCLs for the respective analytes, although cyanide, 2,4-dinitrotoluene, and several SVOCs were detected. Concentrations of the major cationic species were unremarkable.

5.24.5. Recommendation

5.24.5.1. Based on the results of both previous and the Phase I RFI sampling, it appears that the stormwater discharges at this SWMU have released contaminants to the environment. For this reason, it is recommended that this SWMU be included in Phase II activities. Specific recommendations are included in Section 6.0.

5.25 USED OIL DUMPSTERS (SWMU 46)

5.25.1. Site Description and Waste Generation

5.25.1.1. Used oil dumpsters are present at 17 locations in the Administration and Maintenance areas of TEAD-N. These locations include buildings 507, 510, 511, 522, 600, 602, 607, 611, 619, 620, 637, and 691. Used oil from vehicle maintenance operations in these buildings is stored in dumpsters at each of these buildings. The used oil is routinely pumped

from the dumpsters for off-site disposal by an oil recycling contractor. In addition to the used oil dumpsters, an interview with a former TEAD-N employee (Chamberland, 1992), indicated that a large diesel oil spill occurred in the vicinity of the southeast corner of Building 637. This spill area is included in SWMU 46, resulting in a total of 18 individual locations which were investigated.

5.25.2. Site Conditions

5.25.2.1. The soils which lie beneath the Administration and Maintenance Areas of TEAD-N consist of the silty and sandy gravels of the Abela Series (USSCS, 1991). The depth of bedrock beneath these areas is estimated to be between 300 to 500 feet bgs. The depth of groundwater varies, but is approximately 300 feet bgs, and groundwater flow beneath these areas is toward the northwest.

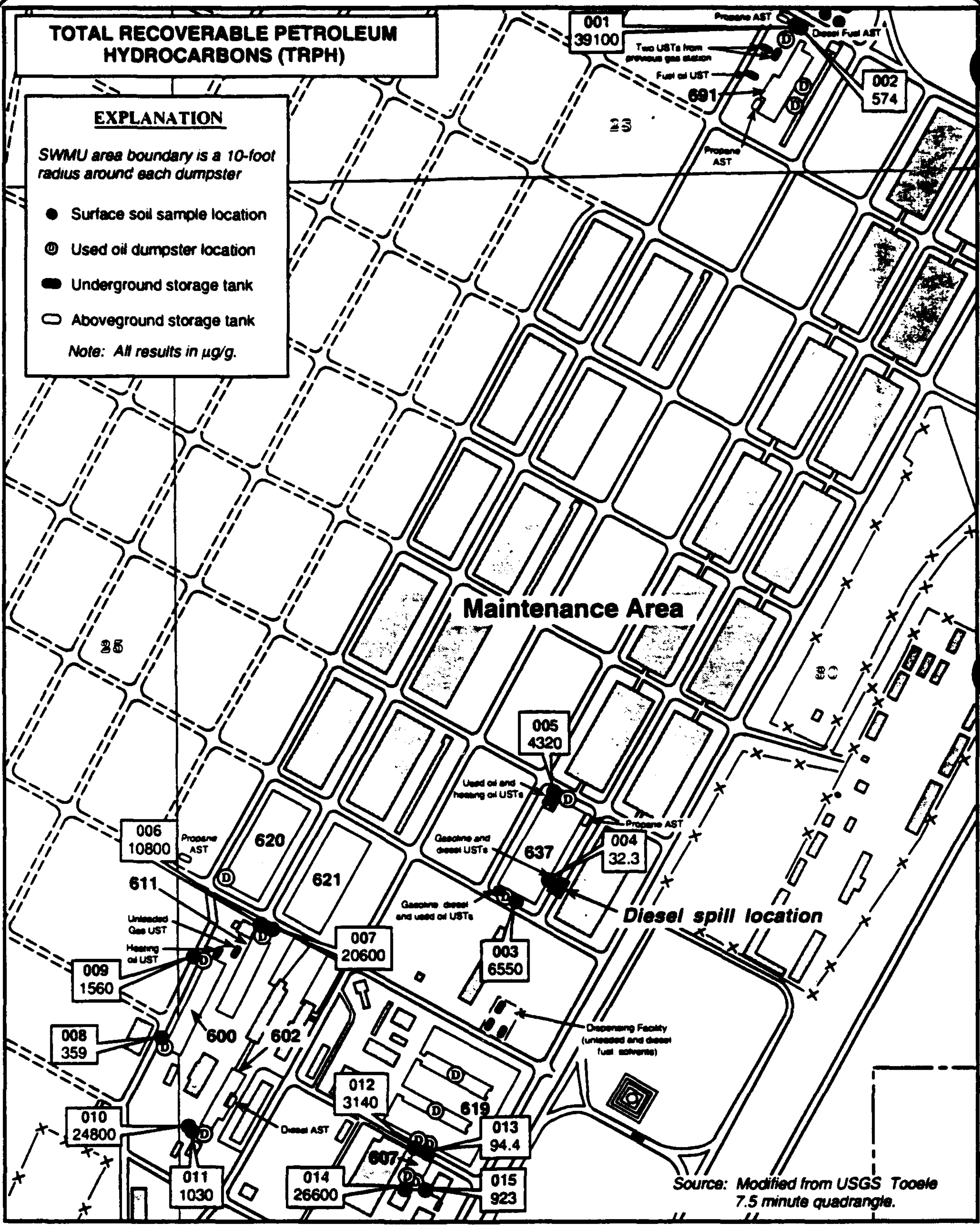
5.25.3. Previous Sampling and Phase I RFI Sampling and Results

5.25.3.1. Previous Investigations. Sampling and analysis of used oil indicates that detectable concentrations of benzene and other VOCs that are F-listed hazardous wastes are present in the used oil.

5.25.3.2. Phase I RFI Sampling and Results. Eighteen surface soil samples and eighteen shallow soil samples (1 foot bgs) were analyzed for total recoverable petroleum hydrocarbons (TRPH) at the used oil dumpster locations. The results of these analyses for the surface soils in the Maintenance area and Administration area are presented in Figures 5-25-1 and 5-25-2, respectively. Analytical results for the shallow soils in these areas are presented in Figures 5-25-3 and 5-25-4. From a total of 17 dumpster sites found, 11 sites were sampled as well as the reported diesel fuel spill. Six dumpster locations were not sampled due to the absence of exposed soil in their vicinity.

5.25.4. Contamination Assessment

5.25.4.1. Based on the results of the Phase I RFI sampling program, it appears that TRPH has been released to the surface and shallow soils at virtually all of the used oil dumpster locations sampled. Concentrations of TRPH in the surface soil samples ranged from 32.3 to 26,600 µg/g. The results of samples collected from 1 foot were similar, with concentrations of TRPH being present in all samples and ranging from 35 to 50,700 µg/g. No Subpart S action levels have been proposed to regulate TRPH in soil.



MAINTENANCE AREA

0 700

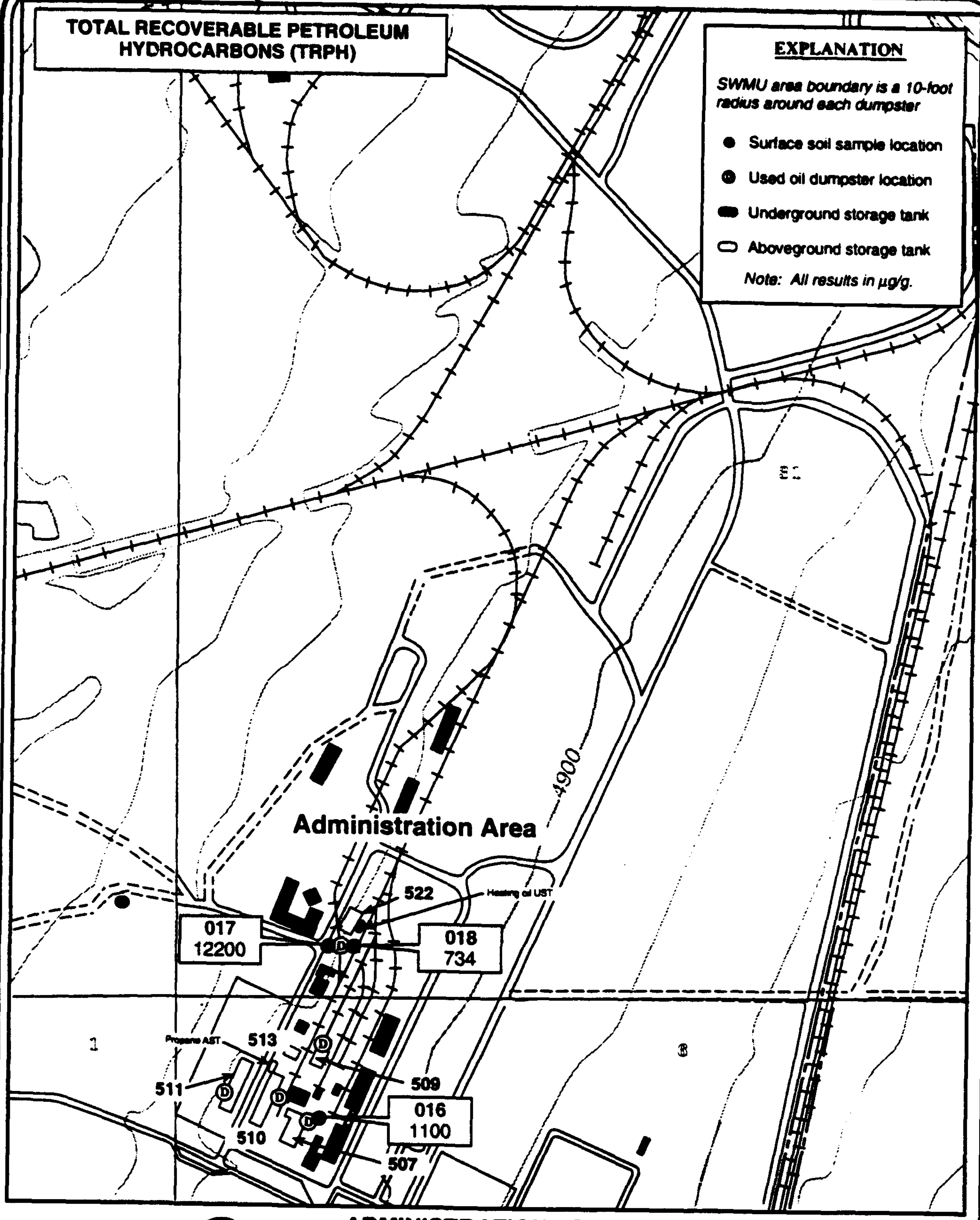
Scale in Feet

TEAD-N PHASE I RFI

USED OIL DUMPSTERS (SWMU 46) SURFACE SOIL SAMPLES

FIGURE 5-25-1

PROJECT No. 2942.0140



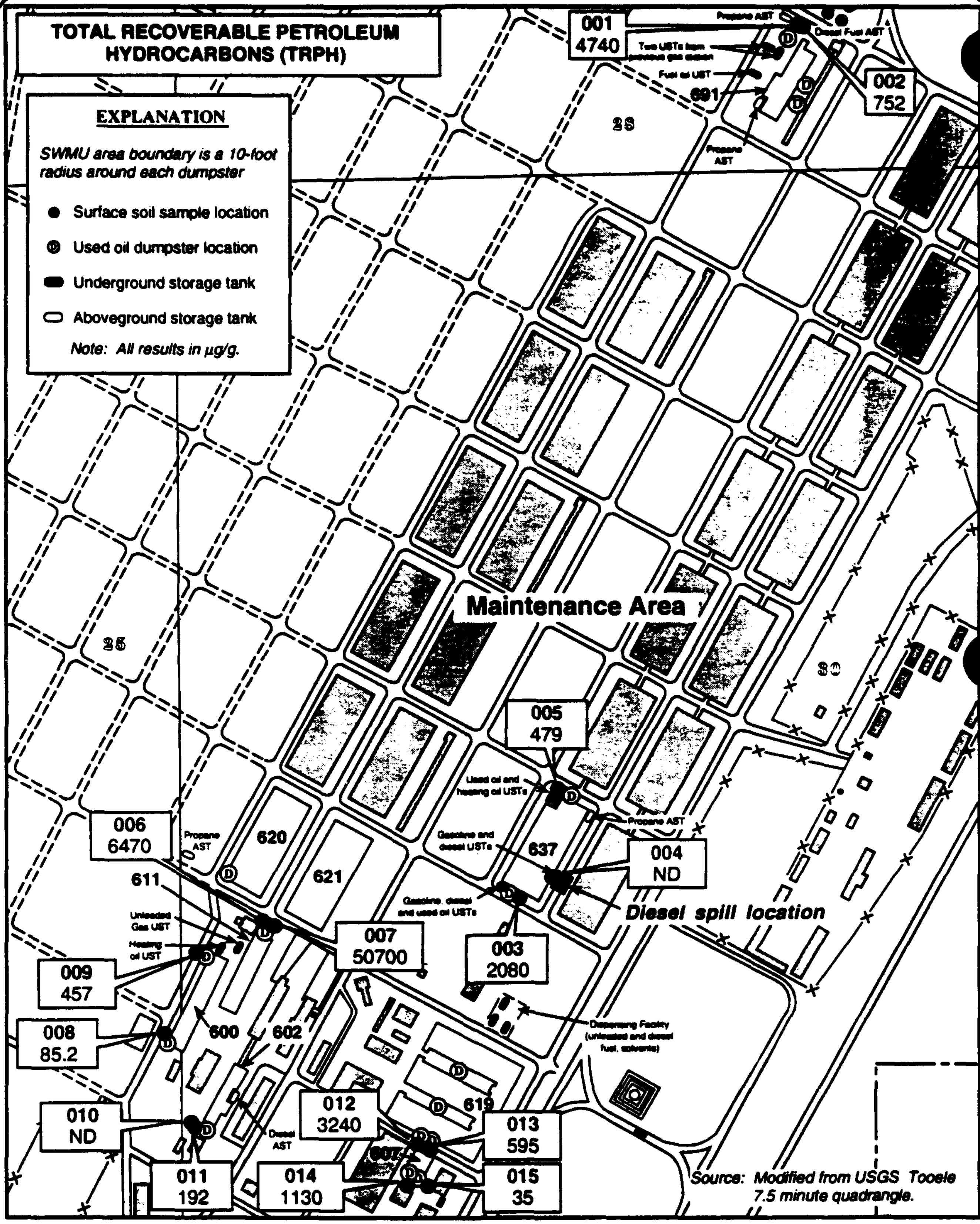
ADMINISTRATION AREA

N

0 700
Scale in Feet

TEAD-N PHASE I RFI
USED OIL DUMPSTERS
(SWMU 46)
SURFACE SOIL SAMPLES
FIGURE 5-25-2

PROJECT NO. 2942.0140

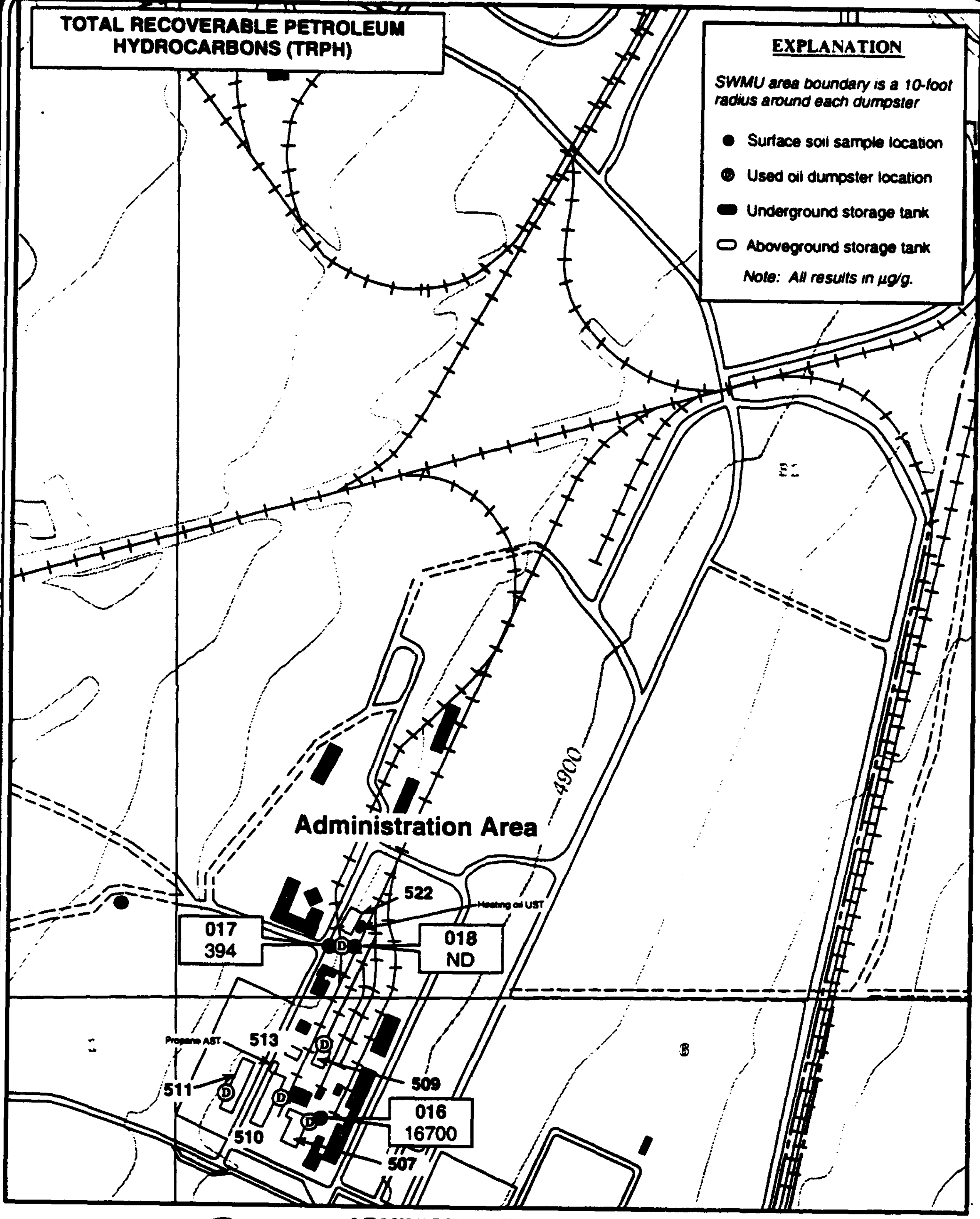


MAINTENANCE AREA

0 700
Scale in Feet

TEAD-N PHASE I RFI
USED OIL DUMPSTERS
(SWMU 46)
SHALLOW SOIL SAMPLES (1 FOOT BGS)
FIGURE 5-25-3

PROJECT NO. 2942.0140



ADMINISTRATION AREA

TEAD-N PHASE I RFI
USED OIL DUMPSTERS
(SWMU 46)
SHALLOW SOIL SAMPLES (1 FOOT BGS)
FIGURE 5-25-4

PROJECT NO. 2942.0140

5.25.5. Recommendation

5.25.5.1. Based on the results of the Phase I RFI sampling, it is apparent that waste oil handling practices at the used oil dumpsters have released petroleum hydrocarbons to the nearby surface and shallow subsurface soils. For this reason, it is recommended that this SWMU be included in the Phase II activities to characterize the extent of this contamination and evaluate the potential health risks it poses to humans and the environment. Specific recommendations for Phase II evaluations are included in Section 6.0.

5.26 BOILER BLOWDOWN AREAS (SWMU 47)

5.26.1. Site Description and Waste Generation

5.26.1.1. This SWMU has four locations in the Maintenance Area, and includes buildings 606, 610, 637, and 691. Each of these buildings contains a boiler that generates steam. During boiler plant maintenance, the boiler is back-flushed during a blowdown which produces small concentrations of blowdown water. Tannic acid, an organic compound, is used to reduce scale buildup inside the boiler during this process and gives the blowdown water a reddish color. These boilers and their associated blowdown systems have been in operation since the initial construction of the buildings, most of which were built during World War II. The boiler blowdown water was previously discharged from the boilers inside the buildings onto the ground. All boiler effluent is now discharged to a drain system leading to the IWTP (Ware, 1993). At Building 691, however, effluent from multiple sources including the building boiler, paint booth area(s), and interior and exterior drains is discharged through a culvert to a point approximately 1,000 to 1,200 feet west of the building. From here it flows along a small open ditch westward, and most likely infiltrates into the surface soil (Lopez, 1993).

5.26.2. Site Conditions

5.26.2.1. Soils beneath the Maintenance Area consist of silty and sandy gravels of the Abela Series (USSCS, 1991). Depth to groundwater varies but is expected to be about 300 feet bgs. The groundwater flow beneath the Maintenance Area is toward the northwest. Although the depth of bedrock is unknown, it probably ranges from between 300 to 500 feet bgs.

5.26.3. Previous Sampling and Phase I RFI Sampling and Results

5.26.3.1. Because no previous sampling of this SWMU has been conducted, the analytical results are limited to those collected during the Phase I RFI sampling program. Samples

collected include a sample of surface water from a boiler blowdown water sump outside Building 610, a surface soil sample (designated a sediment sample) from adjacent to this sump, a sample of sediment from a boiler blowdown water discharge area outside Building 600, and a sediment sample and surface water sample from a discharge area west of Building 691. Surface water and sediment samples were analyzed for VOCs, SVOCs, metals and TRPH. The results of the analysis of sediment samples are presented in Figure 5-26-1, and the results of the surface water analyses are presented in Figure 5-26-2. These analytical results are also contained in Table 5-26 at the end of Section 5.0.

5.26.3.2. Surface water samples showed detections of VOCs and SVOCs, as well as a small amount of cyanide in the sample collected west of Building 691. The surface water sample collected from the Building 610 sump contained 200 μg/L methylene chloride. The sediment samples contained TRPH concentrations up to 3,110 μg/g, as well as several metallic analytes.

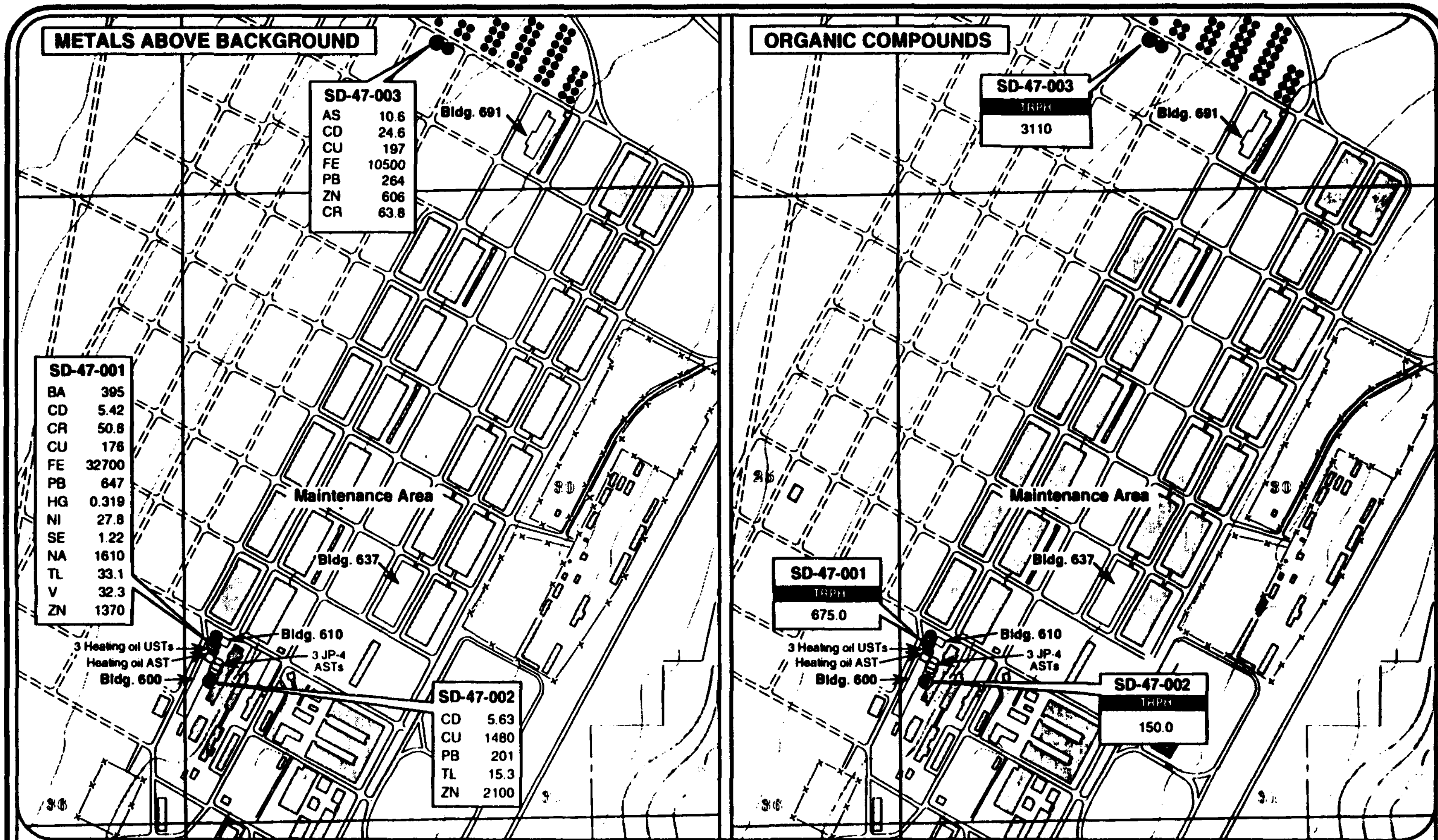
5.26.4. Contamination Assessment

5.26.4.1. For the contamination assessment discussion of SWMU 47, a differentiation between analytical results for those samples contained within a "closed" system (i.e., the blowdown sump) and those results found in the environment should be made. The presence of contamination in a holding sump does not necessarily mean that a release of contaminants has occurred, whereas a discovery of contaminants outside the closed system would imply such a release.

5.26.4.2. Closed System Assessment. Only one sample was collected from within a closed sump. Surface water sample SW-47-001 was obtained from the blowdown sump outside Building 610, and showed the presence of arsenic, copper, iron, lead, manganese, and zinc, none of which are above proposed health-based action levels or promulgated drinking water standards. Concentrations of the VOCs acetone and methylene chloride and three SVOC phenol compounds were also detected in this water sample. Of these organic compounds, methylene chloride in SW-47-001, detected at 200 μg/L, exceeded the proposed regulatory action level for water of 5 μg/L..

5.26.4.3. Environmental Assessment. The remainder of the samples collected at SWMU 47 (one surface water and three soil/sediment samples) were obtained from outside any collection sump(s), generally from nearby soils where blowdown water runoff occurred. Elevated levels of several metals were found, though none exceeded any established health-

PROJECT NO. 2942.0140



0 1200
Scale in Feet

EXPLANATION

SW-47-001 ● Surface water sample location

SD-47-002 ● Sediment sample location

Buildings

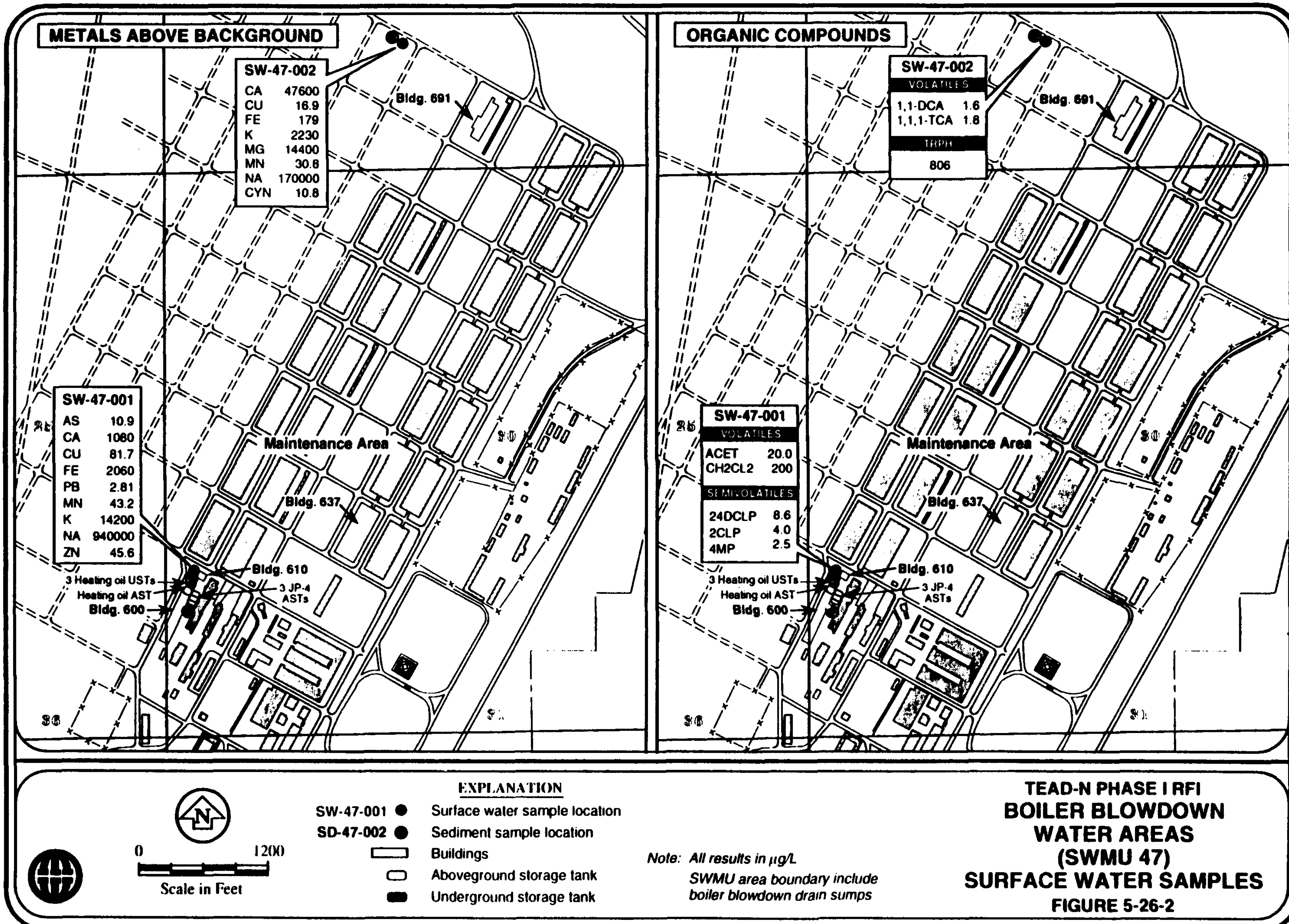
Aboveground storage tank

Underground storage tank

Note: All results in µg/g.
SWMU area boundary include boiler blowdown drain sumps

TEAD-N PHASE I RFI
BOILER BLOWDOWN WATER AREAS (SWMU 47)
SEDIMENT SAMPLES
FIGURE 5-26-1

PROJECT NO. 2942.0140



Note: All results in μg/L

SWMU area boundary include boiler blowdown drain sumps

TEAD-N PHASE I RFI

BOILER BLOWDOWN WATER AREAS (SWMU 47) SURFACE WATER SAMPLES

FIGURE 5-26-2

based action criteria. However, the concentration of lead in sample SD-47-001 (647 μg/g) could pose a risk to human or environmental health depending upon exposure scenarios. Total residual petroleum hydrocarbons (TRPH) were found in all three soil/sediment samples collected at SWMU 47.

5.26.5. Recommendation

5.26.5.1. Based on the Phase I RFI data, there is evidence that the boiler blowdown activities have released metals and petroleum compounds to the environment. For this reason, it is recommended that this SWMU be included in Phase II evaluation activities, including additional sampling. Specific recommendations are included in Section 6.0 of this report.

Table 5-2

MONTGOMERY WATSON

TABLE 5-2

MAIN DEMOLITION AREA (SWMU 1) ANALYTICAL RESULTS

TOOELE AD-NORTH AREA: SWMU NO. 1 - MAIN DEMOLITION AREA
SOIL ANALYTICAL RESULTS FOR METALS

Sample ID	SB-01-001	SB-01-001	SB-01-001	SB-01-001	SB-01-001	SB-01-001	SB-01-001	SB-01-002
Lab ID	OIL1*259	OIL1*260	OIL1*261	OIL1*262	OIL1*263	OIL1*264	OIL1*265	OIL1*266
Date Sampled	07/23/92	07/23/92	07/23/92	07/23/92	07/24/92	07/24/92	07/24/92	07/27/92
Depth (ft)	5.000 ft	10.000 ft	20.000 ft	30.000 ft	40.000 ft	75.000 ft	80.000 ft	5.000 ft
Metals and Cyanide (ug/g)								
Aluminum	5640.0000	7490.0000	8890.0000	5350.0000	4980.0000	11000.0000	4050.0000	1620.0000
Antimony	< 7.1400	< 7.1400	< 7.1400	< 7.1400	< 7.1400	< 7.1400	8.5200	< 7.1400
Arsenic	10.4000	8.4800**	11.9000**	5.0100	4.4400	11.2000**	6.7300	4.1400
Barium	88.7000	90.3000	155.0000	45.0000	59.2000	89.4000	36.1000	45.3000
Beryllium	0.6520	0.8770	1.0100	0.5380	0.5950	1.1200	0.6540	< 0.5000
Cadmium	< 0.7000	< 0.7000	< 0.7000	< 0.7000	< 0.7000	< 0.7000	< 0.7000	1.0600**
Calcium	34800.0000	39500.0000	40800.0000	100000.0000	41100.0000	84000.0000	150000.0000	23800.0000
Chromium	8.5600	12.0000	13.8000	10.5000	8.3300	13.6000	9.3000	< 4.0500
Cobalt	3.8700	4.8700	4.5700	2.6000	3.4000	5.8100	1.9800	< 1.4200
Copper	7.4000	8.5600	9.2500	6.4400	5.3700	11.7000	5.0200	111.0000**
Cyanide	< 0.9200	< 0.9200	< 0.9200	< 0.9200	< 0.9200	< 0.9200	< 0.9200	< 0.9200
Iron	8750.0000	10900.0000	11800.0000	7760.0000	7390.0000	14000.0000	6570.0000	5650.0000
Lead	9.4000	7.6300	7.6400	5.4400	6.4200	10.5000	9.0000	19.0000
Magnesium	6360.0000	6760.0000	7030.0000	12800.0000	9290.0000	13700.0000	9050.0000	2730.0000
Manganese	159.0000	146.0000	130.0000	228.0000	245.0000	408.0000	191.0000	78.1000
Mercury	< 0.0500	< 0.0500	0.0589**	< 0.0500	< 0.0500	0.0617**	< 0.0500	0.0976**
Nickel	8.3500	10.1000	11.0000	10.6000	8.8400	16.0000	9.2300	3.6300
Potassium	1220.0000	1630.0000	1830.0000	1170.0000	977.0000	2090.0000	807.0000	512.0000
Selenium	< 0.2500	< 0.2500	< 0.2500	< 0.2500	< 0.2500	< 0.2500	< 0.2500	< 0.2500
Silver	< 0.5890	< 0.5890	< 0.5890	< 0.5890	< 0.5890	< 0.5890	< 0.5890	< 0.5890
Sodium	1440.0000**	2470.0000**	2650.0000**	888.0000	460.0000	317.0000	277.0000	216.0000
Thallium	< 6.6200	< 6.6200	< 6.6200	< 6.6200	< 6.6200	< 6.6200	< 6.6200	< 6.6200
Vanadium	20.2000	24.1000	25.8000	15.8000	16.5000	23.8000	15.0000	5.3200
Zinc	24.4000	31.4000	32.8000	34.2000	26.1000	59.1000	37.6000	161.0000**

Notes: ** = [illegible] above the background concentration for the depth shown, < = No[illegible]cted at the value shown, NA = Not analyzed

TOOELE AD-NORTH AREA: SWMU 1 - MAIN DEMOLITION AREA
SOIL ANALYTICAL RESULTS FOR METALS

Sample ID	SB-01-002	SB-01-002	SB-01-002	SB-01-002	SB-01-002	SB-01-002	SB-01-003	SB-01-003
Lab ID	OIL1*267	OIL1*268	OIL1*269	OIL1*270	OIL1*271	OIL1*272	OIL1*273	OIL1*274
Date Sampled	07/27/92	07/27/92	07/27/92	07/27/92	07/27/92	07/27/92	07/26/92	07/26/92
Depth (ft)	15.000 ft	35.000 ft	50.000 ft	80.000 ft	90.000 ft	100.000 ft	5.000 ft	15.000 ft
Metals and Cyanide (ug/g)								
Aluminum	1430.0000	6730.0000	2520.0000	12500.0000	5560.0000	1870.0000	8240.0000	4040.0000
Antimony	< 7.1400	< 7.1400	< 7.1400	< 7.1400	< 7.1400	11.7000	< 7.1400	< 7.1400
Arsenic	3.4800	18.0000**	5.7600	6.7500	8.4200**	6.4700	6.3000	6.5900
Barium	28.7000	126.0000	75.3000	124.0000	68.2000	30.4000	194.0000	37.4000
Beryllium	< 0.5000	1.3600	< 0.5000	1.1800	1.1300	0.6260	1.2600	< 0.5000
Cadmium	< 0.7000	< 0.7000	< 0.7000	< 0.7000	< 0.7000	< 0.7000	< 0.7000	< 0.7000
Calcium	17800.0000	42900.0000	24100.0000	56000.0000	77000.0000	130000.0000	42900.0000	20600.0000
Chromium	22.1000	13.5000	5.6600	14.1000	27.4000**	5.4700	11.2000	6.5200
Cobalt	< 1.4200	3.0400	2.6000	5.4500	4.3100	< 1.4200	6.6000	3.9900
Copper	12.5000	10.8000	5.2700	9.4600	6.8200	2.6800	13.0000	6.8600
Cyanide	< 0.9200	< 0.9200	< 0.9200	< 0.9200	< 0.9200	< 0.9200	< 0.9200	< 0.9200
Iron	5290.0000	13100.0000	5300.0000	13600.0000	10600.0000	3760.0000	10300.0000	7780.0000
Lead	7.1900	10.6000	6.7400	8.9800	9.1600	6.5000	14.0000	10.1000
Magnesium	1760.0000	8460.0000	3140.0000	11100.0000	16000.0000	23400.0000	8370.0000	3880.0000
Manganese	59.0000	105.0000	90.2000	377.0000	345.0000	240.0000	460.0000	109.0000
Mercury	0.0585**	0.0677**	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500
Nickel	3.1200	10.3000	4.7100	15.8000	10.9000	5.4200	15.5000	7.5300
Potassium	498.0000	1560.0000	641.0000	2530.0000	1140.0000	464.0000	2710.0000	764.0000
Selenium	< 0.2500	< 0.2500	< 0.2500	< 0.2500	< 0.2500	< 0.2500	0.8850**	0.4200**
Silver	< 0.5890	< 0.5890	< 0.5890	< 0.5890	< 0.5890	< 0.5890	< 0.5890	< 0.5890
Sodium	247.0000	903.0000	418.0000	879.0000	564.0000	339.0000	2160.0000**	1750.0000
Thallium	< 6.6200	< 6.6200	< 6.6200	< 6.6200	< 6.6200	< 6.6200	< 6.6200	< 6.6200
Vanadium	5.1800	31.3000	11.3000	25.1000	17.2000	11.6000	23.7000	16.1000
Zinc	23.1000	39.1000	14.8000	48.6000	36.5000	22.5000	49.3000	25.1000

tes: ** = Value is above the background concentration for the depth shown, < = Not detected at the value shown, NA = Not analyzed

TOOELE AD-NORTH AREA: SWMU NO. 1 - MAIN DEMOLITION AREA
SOIL ANALYTICAL RESULTS FOR METALS

Sample ID	SB-01-003-DUP	SB-01-003	SB-01-003	SB-01-003	SB-01-003	SB-01-003	EP-01-001	EP-01-001
Lab ID	OIL1*295	OIL1*275	OIL1*276	OIL1*277	OIL1*278	OIL1*279	NSOIL1*1	NSOIL1*2
Date Sampled	07/26/92	07/26/92	07/26/92	07/26/92	07/26/92	07/26/92	05/29/92	05/29/92
Depth (ft)	15.000 ft	25.000 ft	35.000 ft	45.000 ft	70.000 ft	100.000 ft	2.000 ft	4.000 ft
Metals and Cyanide (ug/g)								
Aluminum	5220.0000	3390.0000	8500.0000	7730.0000	7180.0000	2030.0000	10100.0000	3440.0000
Antimony	< 7.1400	< 7.1400	< 7.1400	< 7.1400	< 7.1400	< 7.1400	21.4000**	< 7.1400
Arsenic	7.2900	7.2700	5.6700	5.4400	4.9000	5.8300	10.0000	4.1600
Barium	55.3000	54.7000	146.0000	113.0000	95.9000	35.1000	442.0000**	79.6000
Beryllium	0.6420	< 0.5000	0.8660	1.0900	0.6510	< 0.5000	0.6840	< 0.5000
Cadmium	< 0.7000	< 0.7000	< 0.7000	< 0.7000	< 0.7000	< 0.7000	1.4100**	< 0.7000
Calcium	19900.0000	28900.0000	73000.0000	47500.0000	73000.0000	104000.0000	13700.0000	25600.0000
Chromium	8.5000	5.9000	10.1000	10.3000	8.0700	8.5500	34.1000**	6.9600
Cobalt	4.0500	3.9100	5.2100	5.6400	4.9100	3.5500	6.7700	3.1300
Copper	6.7100	6.1000	8.6700	8.6500	8.2700	4.0300	106.0000**	6.0500
Cyanide	< 0.9200	< 0.9200	< 0.9200	< 0.9200	< 0.9200	< 0.9200	< 0.9200	< 0.9200
Iron	8340.0000	6370.0000	9840.0000	9740.0000	8780.0000	6700.0000	34000.0000**	6350.0000
Lead	10.3000	8.4300	10.5000	11.4000	9.5900	6.0800	386.0000**	10.7000
Magnesium	3930.0000	4820.0000	12300.0000	7690.0000	11400.0000	8690.0000	4350.0000	3810.0000
Manganese	140.0000	108.0000	394.0000	400.0000	359.0000	223.0000	421.0000	68.4000
Mercury	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	NA	< 0.0500	< 0.0500
Nickel	7.9500	7.4700	12.7000	12.8000	12.4000	5.9600	20.1000**	6.7000
Potassium	891.0000	801.0000	2290.0000	1780.0000	2150.0000	590.0000	2300.0000	574.0000
Selenium	0.4540**	0.4920**	1.1300**	0.9080**	1.0600**	1.3700**	< 0.2500	< 0.2500
Silver	< 0.5890	< 0.5890	< 0.5890	< 0.5890	< 0.5890	< 0.5890	2.6200**	< 0.5890
Sodium	1700.0000	932.0000	1390.0000	1050.0000	728.0000	423.0000	478.0000	320.0000
Thallium	< 6.6200	< 6.6200	< 6.6200	< 6.6200	< 6.6200	< 6.6200	< 6.6200	< 6.6200
Vanadium	17.0000	15.0000	17.4000	17.3000	17.3000	9.4200	15.7000	13.0000
Zinc	25.9000	22.6000	43.5000	39.7000	36.6000	22.3000	380.0000**	31.2000

Notes: ** = V is above the background concentration for the depth shown, < = No' 'ected at the value shown, NA = Not analyzed

TOOELE AD-NORTH AREA: SWA . 1 - MAIN DEMOLITION AREA
SOIL ANALYTICAL RESULTS FOR METALS

Sample ID	EP-01-002	EP-01-002	EP-01-003	EP-01-003	EP-01-004	EP-01-004	EP-01-005	EP-01-005
Lab ID	NSOIL1*3	NSOIL1*4	NSOIL1*5	NSOIL1*6	NSOIL1*7	NSOIL1*8	NSOIL1*9	SOIL1*10
Date Sampled	05/29/92	05/29/92	05/30/92	05/30/92	05/30/92	05/30/92	05/30/92	05/30/92
Depth (ft)	2.000 ft	3.000 ft	2.000 ft	5.000 ft	3.000 ft	5.000 ft	3.000 ft	7.000 ft
Metals and Cyanide (ug/g)								
Aluminum	7570.0000	4380.0000	8900.0000	13000.0000	12400.0000	10000.0000	15400.0000	10600.0000
Antimony	< 7.1400	< 7.1400	< 7.1400	280.0000**	< 7.1400	< 14.0000	< 7.1400	37.5000**
Arsenic	3.4000	3.0600	12.0000	23.0000	4.7800	5.2400	8.4800	7.1600
Barium	155.0000	70.7000	198.0000	2790.0000**	199.0000	155.0000	309.0000**	268.0000**
Beryllium	< 0.5000	< 0.5000	< 0.5000	< 1.0000	1.0600	1.6000	1.0200	0.6070
Cadmium	< 0.7000	< 0.7000	< 0.7000	4.8000**	< 0.7000	< 1.4000	18.8000**	0.9020**
Calcium	8650.0000	13400.0000	25400.0000	20900.0000	36700.0000	27700.0000	32200.0000	36800.0000
Chromium	9.2400	6.9100	25.5000**	480.0000**	17.5000	17.0000	23.4000**	194.0000**
Cobalt	4.2400	3.2700	5.9600	61.0000**	4.8300	11.0000**	6.4700	6.7200
Copper	12.0000	5.4400	90.9000**	2800.0000**	32.9000**	43.0000**	91.7000**	1450.0000**
Cyanide	< 0.9200	< 0.9200	< 0.9200	< 0.9200	< 0.9200	< 0.9200	< 0.9200	< 0.9200
Iron	9160.0000	6430.0000	19200.0000	83000.0000**	12400.0000	110000.0000**	20600.0000	35500.0000**
Lead	5.9600	4.7200	151.0000**	5400.0000**	42.9000	390.0000**	192.0000**	366.0000**
Magnesium	3670.0000	2120.0000	5690.0000	8100.0000	7480.0000	6300.0000	7650.0000	7020.0000
Manganese	268.0000	153.0000	331.0000	940.0000**	232.0000	440.0000	420.0000	414.0000
Mercury	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500
Nickel	8.1800	5.7700	15.4000	72.0000**	11.9000	30.0000**	17.9000**	22.5000**
Potassium	2320.0000	1070.0000	2480.0000	3460.0000	3310.0000	2670.0000	3910.0000	3120.0000
Selenium	< 0.2500	< 0.2500	< 0.2500	< 0.2500	< 0.2500	< 0.2500	< 0.2500	< 0.2500
Silver	< 0.5890	< 0.5890	< 0.5890	2.6000**	< 0.5890	< 1.2000	0.8170**	< 0.5890
Sodium	346.0000	314.0000	440.0000	1970.0000**	2260.0000**	2020.0000**	1230.0000	1710.0000**
Thallium	< 6.6200	< 6.6200	< 6.6200	< 13.0000	< 6.6200	< 13.0000	< 6.6200	< 6.6200
Vanadium	14.5000	10.2000	21.4000	20.0000	25.4000	12.0000	28.8000	20.5000
Zinc	40.8000	24.6000	294.0000**	12000.0000**	74.7000	270.0000**	614.0000**	1770.0000**

ıtes: ** = Value is above the background concentration for the depth shown, < = Not detected at the value shown, NA = Not analyzed

TOOELE AD-NORTH AREA: SWMU NO. 1 - MAIN DEMOLITION AREA
SOIL ANALYTICAL RESULTS FOR METALS

Sample ID	EP-01-006	EP-01-006	EP-01-007	EP-01-007	EP-01-008	EP-01-008	EP-01-009	EP-01-009
Lab ID	SOIL1*11	SOIL1*12	SOIL1*13	SOIL1*14	SOIL1*15	SOIL1*16	SOIL1*17	SOIL1*18
Date Sampled	05/30/92	05/30/92	05/30/92	05/30/92	05/31/92	05/31/92	05/31/92	05/31/92
Depth (ft)	3.000 ft	5.000 ft	3.000 ft	5.000 ft	3.000 ft	7.000 ft	1.500 ft	4.500 ft
Metals and Cyanide (ug/g)								
Aluminum	10900.0000	4850.0000	11100.0000	8040.0000	19000.0000**	7970.0000	13600.0000	9270.0000
Antimony	< 7.1400	< 7.1400	< 7.1400	< 7.1400	27.0000**	17.2000**	< 7.1400	< 7.1400
Arsenic	4.1800	5.4400	9.2200	5.6700	14.0000	9.2100	4.2600	3.8200
Barium	146.0000	102.0000	228.0000	109.0000	745.0000**	164.0000	190.0000	155.0000
Beryllium	0.9100	< 0.5000	0.7710	< 0.5000	< 1.5000	< 0.5000	0.8310	< 0.5000
Cadmium	< 0.7000	< 0.7000	< 0.7000	< 0.7000	18.0000**	< 0.7000	16.5000**	2.7800**
Calcium	28900.0000	31200.0000	62000.0000	34400.0000	33800.0000	35400.0000	22100.0000	12300.0000
Chromium	13.2000	7.7700	13.8000	11.8000	91.0000**	13.6000	24.3000**	16.3000
Cobalt	5.4000	4.4100	4.9800	3.9500	22.0000**	4.4200	7.3900**	5.8100
Copper	16.7000	5.8000	9.5600	8.0600	860.0000**	25.4000**	551.0000**	69.6000**
Cyanide	< 0.9200	< 0.9200	< 0.9200	< 0.9200	< 0.9200	< 0.9200	< 0.9200	< 0.9200
Iron	12000.0000	7820.0000	12000.0000	9780.0000	130000.0000**	12800.0000	22200.0000	16200.0000
Lead	13.0000	6.7100	9.0400	6.9600	1900.0000**	1360.0000**	586.0000**	2470.0000**
Magnesium	6670.0000	4680.0000	10500.0000	7390.0000	9800.0000	8170.0000	7560.0000	4900.0000
Manganese	310.0000	235.0000	132.0000	161.0000	1500.0000**	240.0000	424.0000	341.0000
Mercury	0.0577**	0.1260**	< 0.0500	< 0.0500	0.0553**	< 0.0500	< 0.0500	< 0.0500
Nickel	11.5000	9.3400	11.5000	9.5000	100.0000**	10.6000	19.6000**	11.6000
Potassium	3460.0000	1010.0000	2720.0000	1720.0000	2200.0000	2090.0000	4360.0000	2720.0000
Selenium	< 0.2500	< 0.2500	< 0.2500	< 0.2500	< 0.2500	< 0.2500	< 0.2500	< 0.2500
Silver	< 0.5890	< 0.5890	< 0.5890	< 0.5890	4.2000**	< 0.5890	0.6710**	< 0.5890
Sodium	626.0000	864.0000	1300.0000	1380.0000	2610.0000**	2310.0000**	685.0000	1050.0000
Thallium	9.0500	< 6.6200	< 6.6200	< 6.6200	< 20.0000	< 6.6200	< 6.6200	< 6.6200
Vanadium	20.4000	16.7000	34.3000**	23.8000	24.0000	26.5000	22.6000	18.4000
Zinc	53.0000	20.8000	37.0000	30.2000	6300.0000**	66.2000	283.0000**	196.0000**

Notes: ** = V 's above the background concentration for the depth shown, < = Not cted at the value shown, NA = Not analyzed

TOOELE AD-NORTH AREA: SWMU .. 1 - MAIN DEMOLITION AREA
SOIL ANALYTICAL RESULTS FOR METALS

Sample ID	EP-01-010	EP-01-010	EP-01-011	EP-01-011-DUP	CP-01-011	EP-01-012	EP-01-012	EP-01-013
Lab ID	SOIL1*19	SOIL1*20	OIL1*218	SOIL1*21	SOIL1*22	SOIL1*23	SOIL1*24	SOIL1*25
Date Sampled	05/31/92	05/31/92	05/31/92	05/31/92	05/31/92	05/31/92	05/31/92	06/01/92
Depth (ft)	2.500 ft	5.500 ft	3.000 ft	3.000 ft	6.000 ft	2.000 ft	4.000 ft	1.000 ft
Metals and Cyanide (ug/g)								
Aluminum	11700.0000	8450.0000	110000.0000**	120000.0000**	5560.0000	20600.0000**	8450.0000	4990.0000
Antimony	< 7.1400	< 7.1400	9.2900**	22.0000**	< 7.1400	< 7.1400	< 7.1400	< 7.1400
Arsenic	5.2400	3.4200	13.0000	9.5000	5.1900	3.9000	6.9400	5.6700
Barium	150.0000	138.0000	552.0000**	828.0000**	98.0000	143.0000	144.0000	157.0000
Beryllium	1.0200	0.7260	0.8200	< 1.0000	< 0.5000	0.6900	< 0.5000	< 0.5000
Cadmium	< 0.7000	< 0.7000	54.2000**	69.0000**	< 0.7000	1.6000**	< 0.7000	27.5000**
Calcium	41000.0000	18100.0000	10600.0000	16500.0000	37200.0000	21500.0000	51000.0000	37000.0000
Chromium	13.1000	12.9000	30.4000**	57.0000**	8.5000	19.3000	11.4000	13.9000
Cobalt	5.3300	5.2300	6.0100	9.6000**	4.0400	6.4500	4.6500	3.8000
Copper	88.7000**	10.5000	11000.0000**	11000.0000**	16.7000	373.0000**	10.7000	84.1000**
Cyanide	< 0.9200	< 0.9200	1.9800**	2.3400**	< 0.9200	< 0.9200	< 0.9200	< 0.9200
Iron	12200.0000	11500.0000	32900.0000**	82000.0000**	8350.0000	19000.0000	10900.0000	12000.0000
Lead	27.4000	7.0600	966.0000**	1200.0000**	6.8600	93.8000**	9.7500	67.4000**
Magnesium	8150.0000	4850.0000	1850.0000	3200.0000	6530.0000	7140.0000	8220.0000	5210.0000
Manganese	291.0000	213.0000	507.0000	790.0000**	172.0000	434.0000	156.0000	220.0000
Mercury	0.0538**	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	0.3800**
Nickel	13.3000	11.2000	175.0000**	220.0000**	8.4000	23.0000**	11.8000	10.3000
Potassium	3790.0000	2760.0000	920.0000	1500.0000	1880.0000	3930.0000	1690.0000	1800.0000
Selenium	< 0.2500	< 0.2500	< 0.2500	< 0.2500	< 0.2500	< 0.2500	< 0.2500	< 0.2500
Silver	< 0.5890	< 0.5890	3.8400**	5.1000**	< 0.5890	< 0.5890	< 0.5890	< 0.5890
Sodium	649.0000	2590.0000**	1570.0000**	2460.0000**	298.0000	424.0000	2130.0000**	640.0000
Thallium	< 6.6200	< 6.6200	< 6.6200	< 13.0000	< 6.6200	9.6900**	< 6.6200	< 6.6200
Vanadium	20.7000	20.0000	25.6000	42.0000**	17.6000	22.7000	23.8000	17.7000
Zinc	752.0000**	45.8000	7000.0000**	9000.0000**	30.1000	236.0000**	34.6000	278.0000**

tes: ** = Value is above the background concentration for the depth shown, < = Not detected at the value shown, NA = Not analyzed

TOOELE AD-NORTH AREA: SWMU NO. 1 - MAIN DEMOLITION AREA
SOIL ANALYTICAL RESULTS FOR METALS

Sample ID	EP-01-013	EP-01-014	EP-01-014	EP-01-015	EP-01-015	EP-01-016	EP-01-016	EP-01-017
Lab ID	SOIL1*26	SOIL1*28	SOIL1*27	SOIL1*30	SOIL1*29	SOIL1*31	SOIL1*32	SOIL1*33
Date Sampled	06/01/92	06/01/92	06/01/92	06/01/92	06/01/92	06/01/92	06/01/92	06/02/92
Depth (ft)	4.500 ft	3.000 ft	7.000 ft	3.500 ft	6.500 ft	0.000 ft	4.500 ft	0.000 ft
Metals and Cyanide (ug/g)								
Aluminum	4910.0000	11500.0000	19000.0000**	6090.0000	4450.0000	4560.0000	6140.0000	6110.0000
Antimony	< 7.1400	< 7.1400	< 7.1400	< 7.1400	< 7.1400	< 7.1400	< 7.1400	< 7.1400
Arsenic	4.6400	5.9900	10.0000	5.7800	14.0000	5.0300	9.9900	6.2000
Barium	120.0000	195.0000	279.0000**	144.0000	85.9000	123.0000	206.0000	200.0000
Beryllium	< 0.5000	0.8750	1.0500	0.9090	< 0.5000	< 0.5000	< 0.5000	< 0.5000
Cadmium	< 0.7000	12.7000**	12.6000**	< 0.7000	10.7000**	< 0.7000	< 0.7000	0.9490**
Calcium	27600.0000	40900.0000	36800.0000	56200.0000	45000.0000	33900.0000	55500.0000	31700.0000
Chromium	8.5100	15.0000	21.4000**	8.9700	9.5700	7.1200	8.7[illegible]0	9.3600
Cobalt	4.6200	7.6700**	8.3200**	5.0700	5.2600	3.9500	4.2700	4.3500
Copper	8.6200	99.3000**	1020.0000**	12.4000	33.6000**	42.2000**	9.4300	62.9000**
Cyanide	< 0.9200	< 0.9200	< 0.9200	< 0.9200	< 0.9200	< 0.9200	< 0.9200	< 0.9200
Iron	8290.0000	16400.0000	18600.0000	12700.0000	14500.0000	7270.0000	9570.0000	9590.0000
Lead	8.0200	617.0000**	203.0000**	16.0000	242.0000**	14.0000	9.1700	193.0000**
Magnesium	3720.0000	9720.0000	10200.0000	7490.0000	4950.0000	4690.0000	9410.0000	6690.0000
Manganese	181.0000	602.0000**	619.0000**	204.0000	235.0000	192.0000	147.0000	296.0000
Mercury	0.0810**	0.1000**	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500
Nickel	9.5400	19.8000**	24.5000**	10.7000	12.4000	8.1100	10.2000	10.5000
Potassium	1720.0000	3730.0000	4200.0000	1490.0000	1210.0000	1820.0000	1670.0000	2580.0000
Selenium	< 0.2500	< 0.2500	< 0.2500	< 0.2500	< 0.2500	< 0.2500	< 0.2500	< 0.2500
Silver	< 0.5890	< 0.5890	< 0.5890	< 0.5890	< 0.5890	< 0.5890	< 0.5890	< 0.5890
Sodium	512.0000	1810.0000**	1910.0000**	1710.0000**	868.0000	178.0000	3320.0000**	687.0000
Thallium	< 6.6200	< 6.6200	11.9000**	9.5900	< 6.6200	< 6.6200	< 6.6200	9.6500**
Vanadium	17.6000	23.0000	24.6000	19.3000	23.9000	13.6000	24.4000	16.8000
Zinc	27.4000	1170.0000**	2260.0000**	65.4000	157.0000**	54.8000	27.8000	116.0000**

Notes: ** = ' is above the background concentration for the depth shown, < = Nr 'ected at the value shown, NA = Not analyzed

TOOELE AD-NORTH AREA: SWA 1 - MAIN DEMOLITION AREA
SOIL ANALYTICAL RESULTS FOR METALS

Sample ID	EP-01-018	EP-01-018	EP-01-018-DUP	EP-01-019	EP-01-019	EP-01-020	EP-01-020	EP-01-021
Lab ID	SOIL1*36	OIL1*219	SOIL1*35	SOIL1*37	SOIL1*38	SOIL1*39	SOIL1*40	SOIL1*41
Date Sampled	06/02/92	06/02/92	06/02/92	06/03/92	06/03/92	06/03/92	06/03/92	06/03/92
Depth (ft)	4.000 ft	6.500 ft	6.500 ft	1.500 ft	7.500 ft	1.500 ft	4.500 ft	2.000 ft
Metals and Cyanide (ug/g)								
Aluminum	19000.0000**	14800.0000	17000.0000	10500.0000	4660.0000	7060.0000	3910.0000	15300.0000
Antimony	1100.0000**	2160.0000**	2200.0000**	22.2000**	< 7.1400	< 7.1400	< 7.1400	< 7.1400
Arsenic	29.0000	24.0000	24.0000	8.8000	6.8100	5.1200	14.0000	4.4000
Barium	12000.0000**	22000.0000**	21000.0000**	594.0000**	69.4000	151.0000	119.0000	126.0000
Beryllium	2.2000**	1.3500	1.2000	1.5600	0.6900	1.1100	0.7470	0.6090
Cadmium	110.0000**	10.2000**	13.0000**	2.6600**	< 0.7000	1.5700**	< 0.7000	2.4000**
Calcium	18800.0000	15400.0000	16000.0000	28600.0000	32200.0000	22400.0000	45100.0000	13000.0000
Chromium	51.0000**	124.0000**	250.0000**	21.5000**	5.9800	11.3000	5.6200	14.3000
Cobalt	13.0000**	9.3200**	8.3000**	8.2500**	3.3100	5.3700	4.3600	4.2300
Copper	13000.0000**	51000.0000**	20000.0000**	549.0000**	68.4000**	70.7000**	7.4700	414.0000**
Cyanide	< 0.9200	< 0.9200	< 0.9200	< 0.9200	< 0.9200	< 0.9200	< 0.9200	< 0.9200
Iron	150000.0000**	48100.0000**	70000.0000**	42600.0000**	6440.0000	16700.0000	7260.0000	16200.0000
Lead	51000.0000**	56000.0000**	54000.0000**	2230.0000**	34.1000	30.7000	11.9000	58.0000**
Magnesium	27000.0000**	26100.0000**	33000.0000**	6690.0000	5710.0000	5980.0000	7610.0000	5060.0000
Manganese	970.0000**	398.0000	510.0000	628.0000**	145.0000	341.0000	168.0000	381.0000
Mercury	0.1080**	< 0.0500	< 0.0500	< 0.0500	< 0.0500	0.1380**	< 0.0500	0.3720**
Nickel	120.0000**	110.0000**	110.0000**	33.4000**	6.5500	16.4000	8.3900	26.2000**
Potassium	834.0000	969.0000	1100.0000	2790.0000	1020.0000	2920.0000	1080.0000	2670.0000
Selenium	< 0.2500	< 0.2500	< 0.2500	< 0.2500	< 0.2500	< 0.2500	< 0.2500	< 0.2500
Silver	3.1000**	8.3000**	4.7000**	1.5100**	< 0.5890	< 0.5890	< 0.5890	< 0.5890
Sodium	811.0000	598.0000	1010.0000	1500.0000**	1070.0000	279.0000	1500.0000**	257.0000
Thallium	110.0000**	62.1000**	90.0000**	< 6.6200	< 6.6200	< 6.6200	< 6.6200	< 6.6200
Vanadium	< 10.0000	6.5500	< 6.8000	26.2000	13.9000	13.8000	18.0000	14.6000
Zinc	5800.0000**	4970.0000**	5200.0000**	3270.0000**	72.6000	93.5000	25.3000	166.0000**

·tes: ** = Value is above the background concentration for the depth shown, < = Not detected at the value shown, NA = Not analyzed

TOOELE AD-NORTH AREA: SWMU NO. 1 - MAIN DEMOLITION AREA
SOIL ANALYTICAL RESULTS FOR METALS

Sample ID	EP-01-021	EP-01-022	EP-01-022	EP-01-023	EP-01-023	EP-01-024	EP-01-024	EP-01-025
Lab ID	SOIL1*42	SOIL1*43	SOIL1*44	SOIL1*45	SOIL1*46	SOIL1*47	SOIL1*48	SOIL1*49
Date Sampled	06/03/92	06/04/92	06/04/92	06/04/92	06/04/92	06/04/92	06/04/92	06/04/92
Depth (ft)	4.500 ft	4.000 ft	5.000 ft	4.000 ft	5.500 ft	0.000 ft	4.500 ft	4.500 ft
Metals and Cyanide (ug/g)								
Aluminum	5440.0000	59000.0000**	5070.0000	5970.0000	5490.0000	10400.0000	7090.0000	84000.0000**
Antimony	< 7.1400	12.3000**	< 7.1400	< 7.1400	< 7.1400	< 7.1400	< 7.1400	13.5000**
Arsenic	3.7500	7.3000	9.9900	5.5300	11.6000	7.1600	6.9400	4.2000
Barium	96.8000	116.0000	109.0000	101.0000	83.7000	194.0000	174.0000	276.0000**
Beryllium	< 0.5000	0.9640	< 0.5000	< 0.5000	< 0.5000	0.9650	< 0.5000	1.5200
Cadmium	< 0.7000	2.1100**	< 0.7000	< 0.7000	< 0.7000	1.4700**	< 0.7000	32.5000**
Calcium	15700.0000	51400.0000	49700.0000	33500.0000	32800.0000	20900.0000	20500.0000	22800.0000
Chromium	8.1500	47.4000**	6.9600	8.6800	7.3000	13.7000	10.6000	33.6000**
Cobalt	4.5300	3.4600	3.7400	4.2400	3.6400	4.2800	6.3100	6.2700
Copper	8.2300	2070.0000**	10.1000	15.9000	7.0400	147.0000**	9.5300	3400.0000**
Cyanide	< 0.9200	< 0.9200	< 0.9200	< 0.9200	< 0.9200	< 0.9200	< 0.9200	< 0.9200
Iron	8180.0000	6620.0000	7860.0000	10500.0000	7850.0000	11700.0000	10500.0000	45200.0000**
Lead	9.7200	469.0000**	10.6000	8.7300	8.2200	53.6000	13.0000	50.3000
Magnesium	4480.0000	17500.0000**	7150.0000	4790.0000	6840.0000	4960.0000	4800.0000	4970.0000
Manganese	223.0000	447.0000	143.0000	159.0000	114.0000	328.0000	479.0000	846.0000**
Mercury	0.0694**	< 0.0500	< 0.0500	< 0.0500	< 0.0500	0.0580**	< 0.0500	< 0.0500
Nickel	7.6100	14.2000	7.5100	8.2200	7.3200	12.4000	12.2000	28.4000**
Potassium	2230.0000	1580.0000	1020.0000	1910.0000	1540.0000	2690.0000	2190.0000	2020.0000
Selenium	< 0.2500	< 0.2500	< 0.2500	< 0.2500	< 0.2500	< 0.2500	< 0.2500	< 0.2500
Silver	< 0.5890	2.1900**	< 0.5890	< 0.5890	< 0.5890	< 0.5890	< 0.5890	8.6700**
Sodium	756.0000	2800.0000**	1930.0000**	381.0000	702.0000	361.0000	1450.0000**	971.0000
Thallium	< 6.6200	11.4000**	< 6.6200	< 6.6200	< 6.6200	< 6.6200	< 6.6200	< 6.6200
Vanadium	13.6000	22.1000	17.7000	16.4000	21.9000	16.2000	23.8000	16.2000
Zinc	32.2000	766.0000**	21.9000	42.6000	21.3000	238.0000**	38.6000	12000.0000**

Notes: ** = V [illegible] is above the background concentration for the depth shown, < = Nc [illegible] cted at the value shown, NA = Not analyzed

TOOELE AD-NORTH AREA: SWMU 1 - MAIN DEMOLITION AREA
SOIL ANALYTICAL RESULTS FOR METALS

Sample ID	EP-01-025	EP-01-026	EP-01-026	EP-01-027	EP-01-027	EP-01-028	EP-01-028	EP-01-029
Lab ID	SOIL1*50	SOIL1*51	SOIL1*52	SOIL1*53	SOIL1*54	SOIL1*55	SOIL1*56	SOIL1*57
Date Sampled	06/04/92	06/09/92	06/09/92	06/09/92	06/09/92	06/09/92	06/09/92	06/09/92
Depth (ft)	6.500 ft	4.500 ft	7.000 ft	3.500 ft	5.000 ft	4.500 ft	7.000 ft	3.500 ft
Metals and Cyanide (ug/g)								
Aluminum	2980.0000	6300.0000	5510.0000	24000.0000**	5680.0000	57000.0000**	4630.0000	62000.0000**
Antimony	< 7.1400	< 7.1400	< 7.1400	< 7.1400	< 7.1400	< 7.1400	< 7.1400	27.9000**
Arsenic	5.2200	5.8800	8.2400	7.4000	5.5200	4.5000	7.2200	< 2.5000
Barium	92.7000	2440.0000**	870.0000**	143.0000	122.0000	111.0000	104.0000	158.0000
Beryllium	< 0.5000	0.7510	0.9860	< 0.5000	< 0.5000	1.1800	< 0.5000	< 0.5000
Cadmium	< 0.7000	11.8000**	< 0.7000	5.6900**	< 0.7000	7.5000**	< 0.7000	13.9000**
Calcium	31700.0000	23300.0000	35500.0000	73000.0000**	47400.0000	19300.0000	54700.0000	10400.0000
Chromium	< 4.0500	12.0000	9.0200	31.6000**	7.7200	78.9000**	7.1800	54.4000**
Cobalt	3.5200	4.6500	4.4700	4.0000	4.2100	4.8400	4.3000	3.6200
Copper	9.9000	244.0000**	95.7000**	723.0000**	8.2600	1950.0000**	11.3000	2150.0000**
Cyanide	< 0.9200	< 0.9200	< 0.9200	< 0.9200	< 0.9200	< 0.9200	< 0.9200	< 0.9200
Iron	5800.0000	17800.0000	12300.0000	8510.0000	8150.0000	17300.0000	8390.0000	7460.0000
Lead	8.5000	58.0000**	18.0000	74.6000**	10.4000	181.0000**	19.0000	1560.0000**
Magnesium	6300.0000	7110.0000	8530.0000	11700.0000	8580.0000	18700.0000**	6880.0000	37800.0000**
Manganese	159.0000	258.0000	185.0000	228.0000	143.0000	643.0000**	144.0000	514 0000
Mercury	< 0.0500	0.1320**	< 0.0500	0.1020**	0.0527**	0.1160**	< 0.0500	< 0.0500
Nickel	6.3700	15.8000	10.0000	13.1000	8.3300	33.9000**	8.1600	24.2000**
Potassium	878.0000	1990.0000	1940.0000	1600.0000	1720.0000	2540.0000	1220.0000	1480.0000
Selenium	< 0.2500	< 0.2500	< 0.2500	2.4200**	< 0.2500	< 0.2500	< 0.2500	0.6440**
Silver	< 0.5890	0.7630**	< 0.5890	4.9400**	< 0.5890	1.7400**	< 0.5890	1.9900**
Sodium	199.0000	314.0000	322.0000	431.0000	790.0000	838.0000	986.0000	259.0000
Thallium	< 6.6200	< 6.6200	< 6.6200	< 6.6200	< 6.6200	< 6.6200	< 6.6200	< 6.6200
Vanadium	10.8000	12.8000	18.2000	19.3000	18.1000	19.1000	20.1000	17.6000
Zinc	24.8000	9300.0000**	114.0000**	404.0000**	24.7000	777.0000**	25.8000	626.0000**

5-2-10

tes: ** = Value is above the background concentration for the depth shown, < = Not detected at the value shown, NA = Not analyzed

TOOELE AD-NORTH AREA: SWMU 1 - MAIN DEMOLITION AREA
SOIL ANALYTICAL RESULTS FOR METALS

Sample ID	EP-01-029	EP-01-029-DUP	EP-01-030	EP-01-030	EP-01-031	EP-01-031	EP-01-032	EP-01-03
Lab ID	OIL1*220	SOIL1*58	SOIL1*59	SOIL1*60	SOIL1*62	SOIL1*61	SOIL1*63	SOIL1*64
Date Sampled	06/09/92	06/09/92	06/10/92	06/10/92	06/10/92	06/10/92	06/10/92	06/10/92
Depth (ft)	5.000 ft	5.000 ft	3.000 ft	6.500 ft	0.000 ft	5.500 ft	0.500 ft	5.000 ft
Metals and Cyanide (ug/g)								
Aluminum	6820.0000	6570.0000	18600.0000**	4320.0000	4150.0000	20400.0000**	9980.0000	20300.0000
Antimony	< 7.1400	< 7.1400	< 7.1400	< 7.1400	< 7.1400	< 7.1400	< 7.1400	< 7.1400
Arsenic	6.0600	6.0500	5.4000	7.2300	2.7900	4.7000	4.1800	6.6000
Barium	120.0000	118.0000	147.0000	97.8000	564.0000**	203.0000	117.0000	206.0000
Beryllium	0.6180	< 0.5000	< 0.5000	< 0.5000	< 0.5000	1.4000	0.7250	1.2100
Cadmium	< 0.7000	< 0.7000	2.2100**	< 0.7000	1.9600**	< 0.7000	1.0500**	< 0.7000
Calcium	26900.0000	30100.0000	27200.0000	17200.0000	27500.0000	26600.0000	33000.0000	53800.0000
Chromium	8.4000	7.9500	23.1000**	7.4800	8.0600	22.2000**	13.5000	23.7000
Cobalt	3.9100	3.9500	5.2800	3.7000	2.1400	8.6600**	5.3000	8.4300
Copper	115.0000**	104.0000**	294.0000**	7.5000	290.0000**	20.2000	111.0000**	20.1000
Cyanide	< 0.9200	< 0.9200	< 0.9200	< 0.9200	< 0.9200	< 0.9200	< 0.9200	< 0.9200
Iron	9420.0000	7480.0000	14300.0000	8090.0000	6000.0000	20400.0000	12200.0000	20300.0000
Lead	27.8000	19.0000	130.0000**	9.3300	22.0000	16.0000	26.7000	17.0000
Magnesium	5300.0000	5900.0000	8220.0000	3820.0000	3400.0000	12900.0000	8240.0000	12100.0000
Manganese	161.0000	164.0000	441.0000	170.0000	113.0000	657.0000**	345.0000	465.0000
Mercury	< 0.0500	< 0.0500	< 0.0500	< 0.0500	0.2040**	< 0.0500	0.1160**	< 0.0500
Nickel	8.3400	8.0600	18.2000**	8.1100	7.2500	22.4000**	11.9000	24.2000
Potassium	1660.0000	1870.0000	3350.0000	1230.0000	1160.0000	7050.0000**	3220.0000	6040.0000
Selenium	2.0100**	< 0.2500	< 0.2500	< 0.2500	< 0.2500	< 0.2500	< 0.2500	< 0.2500
Silver	< 0.5890	< 0.5890	< 0.5890	< 0.5890	< 0.5890	< 0.5890	< 0.5890	< 0.5890
Sodium	250.0000	269.0000	814.0000	614.0000	228.0000	1310.0000	294.0000	1570.0000
Thallium	8.5200	< 6.6200	< 6.6200	< 6.6200	< 6.6200	< 6.6200	< 6.6200	< 6.6200
Vanadium	14.8000	15.3000	20.3000	18.3000	9.5400	29.9000**	20.9000	30.5000
Zinc	53.9000	61.3000	183.0000**	22.2000	174.0000**	87.3000	101.0000	85.4000

Notes: * lue is above the background concentration for the depth shown, < detected at the value shown, NA = Not analyzed

SOIL ANALYTICAL RESULTS FOR METALS

Sample ID	EP-01-033	EP-01-033	EP-01-034	EP-01-034	EP-01-035	EP-01-035	EP-01-036	EP-01-036
Lab ID	SOIL1*65	SOIL1*66	SOIL1*67	SOIL1*68	SOIL1*70	SOIL1*69	SOIL1*71	SOIL1*72
Date Sampled	06/11/92	06/11/92	06/11/92	06/11/92	06/11/92	06/11/92	06/11/92	06/11/92
Depth (ft)	4.000 ft	6.500 ft	3.500 ft	6.000 ft	0.500 ft	6.000 ft	0.000 ft	5.000 ft
Metals and Cyanide (ug/g)								
Aluminum	210000.0000**	20700.0000**	120000.0000**	11700.0000	4710.0000	14600.0000	2820.0000	18600.0000**
Antimony	< 7.1400	< 7.1400	< 7.1400	< 7.1400	< 7.1400	< 7.1400	< 7.1400	< 7.1400
Arsenic	< 2.5000	9.7000	5.5000	8.6000	3.7600	7.4000	3.3200	6.5000
Barium	66.7000	236.0000	108.0000	250.0000**	78.6000	213.0000	199.0000	226.0000
Beryllium	1.1300	1.0700	1.1300	1.1400	< 0.5000	1.4200	< 0.5000	1.2300
Cadmium	< 0.7000	< 0.7000	< 0.7000	< 0.7000	1.5400**	< 0.7000	1.1100**	< 0.7000
Calcium	15500.0000	43100.0000	26200.0000	37800.0000	25100.0000	40600.0000	19900.0000	54900.0000
Chromium	36.6000**	24.7000**	21.0000**	15.5000	6.4900	18.9000	< 4.0500	19.8000
Cobalt	6.9000	8.9000**	7.7800**	6.7800	2.5000	8.2400**	2.0300	8.4900**
Copper	91.8000**	18.5000	175.0000**	14.1000	221.0000**	19.8000	183.0000**	18.7000
Cyanide	< 0.9200	< 0.9200	1.2700**	< 0.9200	< 0.9200	< 0.9200	1.5500**	< 0.9200
Iron	35000.0000**	21200.0000	33700.0000**	13900.0000	7240.0000	17000.0000	5180.0000	18600.0000
Lead	29.1000	19.0000	82.8000**	16.0000	31.9000	20.0000	23.6000	17.0000
Magnesium	3530.0000	11700.0000	6440.0000	8120.0000	3810.0000	11400.0000	3060.0000	12200.0000
Manganese	518.0000	639.0000**	662.0000**	441.0000	154.0000	564.0000**	99.0000	540.0000
Mercury	< 0.0500	< 0.0500	< 0.0500	< 0.0500	0.1770**	< 0.0500	0.1790**	< 0.0500
Nickel	25.7000**	24.7000**	23.2000**	17.5000**	6.3300	22.0000**	5.4300	22.0000**
Potassium	1250.0000	4400.0000	2300.0000	3050.0000	1380.0000	4130.0000	1160.0000	5680.0000
Selenium	< 2.5000	< 0.2500	< 0.2500	< 0.2500	< 0.2500	< 0.2500	< 0.2500	< 0.2500
Silver	2.1000**	< 0.5890	1.1100**	< 0.5890	< 0.5890	< 0.5890	< 0.5890	< 0.5890
Sodium	294.0000	383.0000	778.0000	1070.0000	220.0000	1980.0000**	209.0000	2700.0000**
Thallium	14.1000**	10.2000**	15.5000**	12.3000**	< 6.6200	13.7000**	< 6.6200	< 6.6200
Vanadium	23.9000	39.7000**	22.0000	28.9000	10.8000	28.7000	7.9600	28.6000
Zinc	32.4000	88.2000	53.6000	62.3000	145.0000**	77.6000	130.0000**	79.6000

Notes: ** = Va' is above the background concentration for the depth shown, < = Not -·ected at the value shown, NA = Not analyzed

TOOELE AD-NORTH AREA: SWA 1 - MAIN DEMOLITION AREA
SOIL ANALYTICAL RESULTS FOR METALS

Sample ID	EP-01-037	EP-01-037	EP-01-038	EP-01-038	EP-01-039	EP-01-039	EP-01-040	EP-01-040
Lab ID	SOIL1*73	SOIL1*74	SOIL1*75	SOIL1*76	SOIL1*77	SOIL1*78	SOIL1*79	SOIL1*80
Date Sampled	06/12/92	06/12/92	06/12/92	06/12/92	06/12/92	06/12/92	06/12/92	06/12/92
Depth (ft)	0.500 ft	6.500 ft	0.500 ft	7.000 ft	0.000 ft	7.500 ft	0.000 ft	8.500 ft
Metals and Cyanide (ug/g)								
Aluminum	3520.0000	17000.0000	4200.0000	20800.0000**	2920.0000	19600.0000**	2870.0000	19400.0000**
Antimony	< 7.1400	< 7.1400	< 29.0000	< 7.1400	< 7.1400	< 7.1400	< 7.1400	< 7.1400
Arsenic	3.1500	5.7000	2.6900	6.4000	2.2900	8.3000	2.4600	7.3000
Barium	83.5000	208.0000	168.0000	221.0000	287.0000**	213.0000	307.0000**	205.0000
Beryllium	< 0.5000	1.1800	< 2.0000	1.0400	< 0.5000	1.1800	< 0.5000	1.4500
Cadmium	2.5100**	< 0.7000	< 2.8000	< 0.7000	1.1700**	< 0.7000	1.5400**	< 0.7000
Calcium	21000.0000	41800.0000	11600.0000	45400.0000	21500.0000	38000.0000	21700.0000	38300.0000
Chromium	6.4300	18.9000	< 16.0000	24.5000**	5.6000	24.7000**	5.0800	23.0000**
Cobalt	2.4200	7.7600**	13.0000**	8.0300**	< 1.4200	8.2500**	< 1.4200	8.6700**
Copper	219.0000**	21.0000	4200.0000**	20.3000	9100.0000**	30.1000**	170.0000**	23.3000
Cyanide	< 0.9200	< 0.9200	< 0.9200	< 0.9200	< 0.9200	< 0.9200	< 0.9200	1.6100**
Iron	7390.0000	17800.0000	160000.0000**	19400.0000	5070.0000	19100.0000	5150.0000	19500.0000
Lead	40.9000	17.0000	140.0000**	16.0000	33.1000	15.0000	22.0000	17.0000
Magnesium	3280.0000	11700.0000	1700.0000	12200.0000	2710.0000	11500.0000	3010.0000	12100.0000
Manganese	160.0000	574.0000**	650.0000**	525.0000	77.9000	518.0000	83.0000	540.0000
Mercury	0.1180**	< 0.0500	0.1350**	< 0.0500	0.1720**	< 0.0500	0.2100**	< 0.0500
Nickel	6.3300	20.3000**	38.0000**	22.8000**	5.2800	22.7000**	4.2400	23.1000**
Potassium	1530.0000	5880.0000**	571.0000	5290.0000	942.0000	4860.0000	683.0000	5440.0000
Selenium	< 0.2500	< 0.2500	< 0.2500	< 0.2500	< 0.2500	< 0.2500	< 0.2500	< 0.2500
Silver	< 0.5890	< 0.5890	< 2.4000	< 0.5890	< 0.5890	< 0.5890	< 0.5890	< 0.5890
Sodium	236.0000	2510.0000**	186.0000	1070.0000	216.0000	2070.0000**	221.0000	1560.0000**
Thallium	< 6.6200	< 6.6200	< 26.0000	< 6.6200	< 6.6200	< 6.6200	< 6.6200	< 6.6200
Vanadium	8.8200	28.2000	< 14.0000	32.6000**	8.0600	36.6000**	7.8400	33.6000**
Zinc	198.0000**	82.7000	1600.0000**	86.7000	3580.0000**	83.1000	124.0000**	85.2000

tes: ** = Value is above the background concentration for the pth shown, < = Not detected at the value shown, NA = Not analyzed

TOOELE AD-NORTH AREA: SWMU NO. 1 - MAIN DEMOLITION AREA
SOIL ANALYTICAL RESULTS FOR METALS

Sample ID	EP-01-041	EP-01-041	EP-01-042	EP-01-042-DUP	EP-01-042	EP-01-043	EP-01-043	EP-01-044
Lab ID	SOIL1*81	SOIL1*82	OIL1*227	SOIL1*83	SOIL1*84	SOIL1*85	SOIL1*86	SOIL1*87
Date Sampled	06/13/92	06/13/92	06/13/92	06/13/92	06/13/92	06/13/92	06/13/92	06/13/92
Depth (ft)	0.000 ft	9.000 ft	2.000 ft	2.000 ft	5.000 ft	0.000 ft	5.000 ft	0.000 ft
Metals and Cyanide (ug/g)								
Aluminum	2910.0000	21300.0000**	240000.0000**	260000.0000**	23600.0000**	9630.0000	20800.0000**	11600.0000
Antimony	< 7.1400	< 7.1400	< 7.1400	< 7.1400	< 7.1400	< 7.1400	< 7.1400	< 7.1400
Arsenic	2.4900	6.8000	< 5.0000	< 5.0000	6.7000	5.0000	12.0000	6.4000
Barium	278.0000**	213.0000	53.3000	69.9000	201.0000	136.0000	242.0000	192.0000
Beryllium	< 0.5000	0.9180	< 0.5000	< 0.5000	1.1200	0.8090	1.0200	0.8070
Cadmium	1.7400**	< 0.7000	< 0.7000	< 0.7000	< 0.7000	1.1000**	< 0.7000	1.0400**
Calcium	23700.0000	45700.0000	7470.0000	8520.0000	33900.0000	27100.0000	47800.0000	31400.0000
Chromium	6.6100	24.0000**	26.3000**	29.7000**	27.7000**	13.3000	24.6000**	15.8000
Cobalt	1.8200	8.0300**	3.7100	4.1300	9.0200**	4.4500	8.2300**	5.6500
Copper	142.0000**	33.0000**	252.0000**	337.0000**	20.9000	145.0000**	20.5000	157.0000**
Cyanide	4.5500**	< 0.9200	1.8700**	< 0.9200	< 0.9200	< 0.9200	< 0.9200	< 0.9200
Iron	5570.0000	19900.0000	16000.0000	20000.0000	21200.0000	11600.0000	19900.0000	13200.0000
Lead	33.6000	18.0000	762.0000**	932.0000**	18.0000	26.6000	18.0000	24.0000
Magnesium	3220.0000	12500.0000	1830.0000	2430.0000	10600.0000	6760.0000	11300.0000	8450.0000
Manganese	108.0000	524.0000	287.0000	430.0000	543.0000	321.0000	537.0000	431.0000
Mercury	0.1230**	0.0770**	< 0.0500	< 0.0500	< 0.0500	0.1100**	< 0.0500	0.1030**
Nickel	6.4800	21.6000**	14.9000	17.0000**	22.8000**	11.2000	23.4000**	13.4000
Potassium	648.0000	6690.0000**	722.0000	1050.0000	5020.0000	3060.0000	4420.0000	4300.0000
Selenium	< 0.2500	< 0.2500	< 0.2500	< 2.5000	< 0.2500	< 0.2500	< 0.2500	< 0.2500
Silver	< 0.5890	< 0.5890	1.2700**	1.0800**	< 0.5890	< 0.5890	< 0.5890	< 0.5890
Sodium	275.0000	844.0000	207.0000	339.0000	1800.0000**	380.0000	2850.0000**	313.0000
Thallium	< 6.6200	11.9000**	< 6.6200	16.6000**	< 6.6200	< 6.6200	17.2000**	10.6000**
Vanadium	9.0500	32.9000**	25.7000	29.3000	37.7000**	18.8000	37.2000**	23.8000
Zinc	114.0000**	102.0000	107.0000**	131.0000**	86.6000	115.0000**	82.4000	120.0000**

Notes: ** [illegible]'s above the background concentration for the depth shown, < = N[illegible]cted at the value shown, NA = Not analyzed

TOOELE AD-NORTH AREA: SWMU .. 1 - MAIN DEMOLITION AREA
SOIL ANALYTICAL RESULTS FOR METALS

Sample ID	EP-01-044	EP-01-045	EP-01-045	EP-01-045	EP-01-045-DUP	EP-01-045	EP-01-046	EP-01-046-DUP
Lab ID	SOIL1*88	OIL1*223	OIL1*222	OIL1*221	SOIL1*89	SOIL1*90	OIL1*222	SOIL1*91
Date Sampled	06/13/92	06/14/92	06/14/92	06/14/92	06/14/92	06/14/92	06/14/92	06/14/92
Depth (ft)	5.000 ft	1.000 ft	3.000 ft	3.500 ft	3.500 ft	5.500 ft	3.000 ft	3.000 ft
Metals and Cyanide (ug/g)								
Aluminum	24400.0000**	15500.0000	60000.0000**	26900.0000**	30400.0000**	25200.0000**	NA	64000.0000**
Antimony	< 7.1400	< 7.1400	< 7.1400	< 7.1400	< 7.1400	< 7.1400	NA	< 7.1400
Arsenic	9.6000	NA	NA	5.3000	4.8000	10.0000	9.0000	7.4000
Barium	281.0000**	191.0000	154.0000	197.0000	188.0000	296.0000**	NA	152.0000
Beryllium	1.0200	0.7420	< 0.5000	< 0.5000	< 0.5000	1.1800	NA	0.9140
Cadmium	< 0.7000	< 0.7000	< 0.7000	3.7700**	3.0000**	< 0.7000	NA	< 0.7000
Calcium	54300.0000	35300.0000	38100.0000	32700.0000	33400.0000	53400.0000	NA	36800.0000
Chromium	28.8000**	18.5000	23.0000**	29.1000**	34.2000**	29.6000**	NA	24.7000**
Cobalt	8.4300**	6.9200	7.3800**	6.2300	6.4500	9.2000**	NA	8.1000**
Copper	20.5000	23.8000	47.5000**	75.4000**	69.1000**	22.2000	NA	28.5000**
Cyanide	2.0900**	NA	NA	< 0.9200	< 0.9200	< 0.9200	3.0500**	1.3600**
Iron	20800.0000	15400.0000	24100.0000**	18100.0000	25100.0000**	21200.0000	NA	26400.0000**
Lead	17.0000	NA	25.0000	331.0000**	218.0000**	17.0000	NA	19.0000
Magnesium	12200.0000	9800.0000	8500.0000	8700.0000	8900.0000	12600.0000	NA	8820.0000
Manganese	510.0000	532.0000	564.0000**	714.0000**	720.0000**	537.0000	NA	600.0000**
Mercury	< 0.0500	NA	NA	< 0.0500	0.0691**	< 0.0500	< 0.0500	< 0.0500
Nickel	24.6000**	18.3000**	20.0000**	18.1000**	20.5000**	25.0000**	NA	23.4000**
Potassium	5270.0000	4650.0000	3620.0000	4100.0000	4460.0000	5470.0000	NA	3770.0000
Selenium	< 0.2500	NA	NA	< 0.2500	< 0.2500	< 0.2500	< 0.2500	< 0.2500
Silver	< 0.5890	< 0.5890	< 0.5890	< 0.5890	< 0.5890	< 0.5890	NA	< 0.5890
Sodium	4640.0000**	660.0000	1020.0000	1690.0000**	1450.0000**	3130.0000**	NA	1070.0000
Thallium	10.2000**	< 6.6200	< 6.6200	< 6.6200	13.8000**	13.5000**	NA	18.1000**
Vanadium	41.6000**	24.3000	25.6000	20.6000	23.6000	45.4000**	NA	26.9000
Zinc	82.6000	79.7000	70.3000	224.0000**	278.0000**	87.0000	NA	61.8000

otes: ** = Value is above the background concentration for the depth shown, < = Not detected at the value shown, NA = Not analyzed

TOOELE AD-NORTH AREA: SWMU NO. 1 - MAIN DEMOLITION AREA
SOIL ANALYTICAL RESULTS FOR METALS

Sample ID	EP-01-046	EP-01-047	EP-01-047-DUP	EP-01-047	EP-01-048	EP-01-048	EP-01-049	EP-01-049
Lab ID	SOIL1*92	OIL1*223	SOIL1*93	SOIL1*94	SOIL1*95	SOIL1*96	SOIL1*97	SOIL1*98
Date Sampled	06/14/92	06/14/92	06/14/92	06/14/92	06/14/92	06/14/92	06/14/92	06/14/92
Depth (ft)	4.500 ft	1.000 ft	1.000 ft	5.000 ft	0.000 ft	4.500 ft	0.000 ft	4.500 ft
Metals and Cyanide (ug/g)								
Aluminum	18100.0000**	NA	14900.0000	19700.0000**	8060.0000	16800.0000	4870.0000	19900.0000**
Antimony	< 7.1400	NA	< 7.1400	< 7.1400	< 7.1400	< 7.1400	162.0000**	< 7.1400
Arsenic	7.0000	7.4900	6.6000	6.4000	6.7600	7.2600	4.8600	6.8600
Barium	201.0000	NA	296.0000**	228.0000	164.0000	155.0000	188.0000	243.0000
Beryllium	1.1900	NA	1.3000	1.0900	< 0.5000	1.1300	< 0.5000	0.9490
Cadmium	< 0.7000	NA	< 0.7000	< 0.7000	0.8360	< 0.7000	2.0400**	< 0.7000
Calcium	54700.0000	NA	36000.0000	41100.0000	24100.0000	51600.0000	20800.0000	58000.0000
Chromium	20.9000	NA	53.3000**	21.3000**	14.3000	21.4000**	9.4700	24.4000**
Cobalt	8.6600**	NA	7.4500**	8.4500**	4.0000	7.1600**	2.1500	8.0600**
Copper	18.4000	NA	25.2000	19.4000	113.0000**	17.4000	100000.0000**	56.6000**
Cyanide	2.5200**	< 0.9200	< 0.9200	< 0.9200	< 0.9200	1.5300**	< 0.9200	< 0.9200
Iron	17900.0000	NA	16600.0000	19400.0000	9040.0000	16500.0000	6940.0000	19000.0000
Lead	16.0000	23.0000	24.0000	18.0000	31.0000	14.0000	35.4000	14.0000
Magnesium	11300.0000	NA	10100.0000	12200.0000	5740.0000	9760.0000	3520.0000	10900.0000
Manganese	478.0000	NA	557.0000**	618.0000**	282.0000	456.0000	180.0000	469.0000
Mercury	< 0.0500	< 0.0500	< 0.0500	< 0.0500	0.0566**	< 0.0500	0.0837**	< 0.0500
Nickel	21.8000**	NA	19.4000**	21.4000**	9.1100	20.0000**	14.9000	22.4000**
Potassium	4750.0000	NA	4840.0000	5520.0000	2580.0000	3970.0000	1560.0000	5120.0000
Selenium	< 0.2500	< 0.2500	< 0.2500	< 0.2500	< 0.2500	< 0.2500	< 0.2500	< 0.2500
Silver	< 0.5890	NA	< 0.5890	< 0.5890	< 0.5890	< 0.5890	4.9000**	< 0.5890
Sodium	2560.0000**	NA	708.0000	2220.0000**	278.0000	1930.0000**	223.0000	2840.0000**
Thallium	14.9000**	NA	11.4000**	12.3000**	< 6.6200	< 6.6200	24.8000**	< 6.6200
Vanadium	29.8000**	NA	25.3000	29.7000**	14.2000	27.5000	9.7300	29.7000**
Zinc	77.1000	NA	77.7000	84.6000	88.9000	69.4000	45000.0000**	97.0000

Notes: ** [illegible]s above the background concentration for the depth shown, < = No[illegible]cted at the value shown, NA = Not analyzed

TOOELE AD-NORTH AREA: SWMU 1 - MAIN DEMOLITION AREA
SOIL ANALYTICAL RESULTS FOR METALS

Sample ID	EP-01-050	EP-01-050	EP-01-051	EP-01-051-DUP	EP-01-051	EP-01-052	EP-01-052	EP-01-053
Lab ID	SOIL1*99	OIL1*100	OIL1*101	OIL1*224	OIL1*102	OIL1*103	OIL1*104	OIL1*105
Date Sampled	06/15/92	06/15/92	06/15/92	06/15/92	06/15/92	06/15/92	06/15/92	06/16/92
Depth (ft)	2.500 ft	4.500 ft	2.500 ft	2.500 ft	5.000 ft	2.500 ft	7.000 ft	3.500 ft
Metals and Cyanide (ug/g)								
Aluminum	14400.0000	20300.0000**	14600.0000	NA	15000.0000	14100.0000	15900.0000	17000.0000
Antimony	< 7.1400	< 7.1400	< 7.1400	NA	< 7.1400	< 7.1400	< 7.1400	< 7.1400
Arsenic	5.8700	11.1000	7.7600	5.8300	6.7100	7.4000	7.8600	5.9800
Barium	144.0000	258.0000**	217.0000	NA	207.0000	160.0000	158.0000	168.0000
Beryllium	0.6040	0.8170	0.6220	NA	0.7630	0.6490	0.6890	1.4800
Cadmium	1.1600**	< 0.7000	20.3000**	NA	< 0.7000	< 0.7000	< 0.7000	< 0.7000
Calcium	33500.0000	38200.0000	31300.0000	NA	32800.0000	41900.0000	40700.0000	35700.0000
Chromium	19.6000	23.8000**	19.8000	NA	19.4000	16.4000	18.1000	21.4000**
Cobalt	6.2500	8.2400**	5.6100	NA	7.3700**	6.8600	7.1300**	7.5800**
Copper	48.4000**	17.0000	130.0000**	NA	15.1000	17.2000	17.6000	19.9000
Cyanide	< 0.9200	< 0.9200	2.7500**	< 0.9200	< 0.9200	1.8000**	< 0.9200	< 0.9200
Iron	15700.0000	19000.0000	16200.0000	NA	15800.0000	14600.0000	15400.0000	17900.0000
Lead	25.1000	15.0000	130.0000**	NA	200.0000**	17.0000	16.0000	22.0000
Magnesium	9050.0000	10000.0000	7390.0000	NA	8110.0000	10100.0000	9600.0000	11200.0000
Manganese	491.0000	543.0000	553.0000**	NA	545.0000	507.0000	498.0000	562.0000**
Mercury	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500
Nickel	17.3000**	20.8000**	13.4000	NA	19.5000**	16.9000**	17.8000**	18.7000**
Potassium	4080.0000	4250.0000	4110.0000	NA	3100.0000	3960.0000	4200.0000	4900.0000
Selenium	< 0.2500	< 0.2500	< 0.2500	< 0.2500	< 0.2500	< 0.2500	< 0.2500	< 0.2500
Silver	< 0.5890	< 0.5890	< 0.5890	NA	< 0.5890	< 0.5890	< 0.5890	< 0.5890
Sodium	1590.0000**	3910.0000**	615.0000	NA	1120.0000	1680.0000**	545.0000	1780.0000**
Thallium	< 6.6200	< 6.6200	< 6.6200	NA	< 6.6200	< 6.6200	< 6.6200	< 6.6200
Vanadium	23.7000	35.9000**	19.4000	NA	27.1000	23.6000	25.9000	31.3000**
Zinc	902.0000**	77.4000	791.0000**	NA	78.4000	66.3000	68.6000	78.5000

tes: ** = Value is above the background concentration for the depth shown, < = Not detected at the value shown, NA = Not analyzed

TOOELE AD-NORTH AREA: SWMU NO. 1 - MAIN DEMOLITION AREA
SOIL ANALYTICAL RESULTS FOR METALS

Sample ID	EP-01-053-DUP	EP-01-053	EP-01-054	EP-01-054-DUP	EP-01-054	EP-01-054	EP-01-054	EP-01-055
Lab ID	OIL1*225	OIL1*106	OIL1*107	OIL1*226	OIL1*224	OIL1*225	OIL1*108	OIL1*109
Date Sampled	06/16/92	06/16/92	06/16/92	06/16/92	06/15/92	06/16/92	06/16/92	06/17/92
Depth (ft)	3.500 ft	6.500 ft	2.000 ft	2.000 ft	2.500 ft	3.500 ft	4.500 ft	2.000 ft
Metals and Cyanide (ug/g)								
Aluminum	NA	21500.0000**	5260.0000	5530.0000	14200.0000	13500.0000	11500.0000	2310.0000
Antimony	NA	< 7.1400	< 7.1400	< 7.1400	< 7.1400	< 7.1400	< 7.1400	< 7.1400
Arsenic	7.4700	9.5000	3.1200	3.5400	NA	NA	3.3300	2.5900
Barium	NA	131.0000	114.0000	189.0000	208.0000	192.0000	105.0000	100.0000
Beryllium	NA	1.4300	< 0.5000	< 0.5000	< 0.5000	0.6280	< 0.5000	< 0.5000
Cadmium	NA	< 0.7000	27.0000**	25.7000**	26.1000**	< 0.7000	28.7000**	< 0.7000
Calcium	NA	36100.0000	14200.0000	17200.0000	31200.0000	35600.0000	18800.0000	13800.0000
Chromium	NA	24.4000**	36.8000**	33.8000**	21.2000**	39.7000**	44.4000**	4.8900
Cobalt	NA	9.4600**	2.3700	2.7200	5.7900	7.2500**	2.5100	1.8300
Copper	NA	17.9000	162.0000**	152.0000**	186.0000**	17.5000	471.0000**	57.7000**
Cyanide	< 0.9200	1.9800**	2.0900**	< 0.9200	NA	NA	1.7000**	< 0.9200
Iron	NA	21400.0000	7300.0000	7610.0000	17800.0000	14300.0000	7450.0000	6260.0000
Lead	NA	22.0000	21.0000	17.0000	505.0000**	113.0000**	23.0000	9.8200
Magnesium	NA	10800.0000	2570.0000	2980.0000	7440.0000	10300.0000	2770.0000	1670.0000
Manganese	NA	622.0000**	136.0000	142.0000	586.0000**	554.0000**	182.0000	82.9000
Mercury	< 0.0500	< 0.0500	0.2160**	0.1930**	NA	NA	0.2140**	0.1480**
Nickel	NA	23.6000**	20.3000**	19.0000**	15.5000	16.9000**	23.6000**	4.3800
Potassium	NA	4400.0000	1050.0000	1160.0000	3970.0000	4230.0000	1060.0000	603.0000
Selenium	< 0.2500	< 0.2500	< 0.2500	< 0.2500	NA	NA	< 0.2500	< 0.2500
Silver	NA	< 0.5890	< 0.5890	< 0.5890	< 0.5890	< 0.5890	< 0.5890	< 0.5890
Sodium	NA	4230.0000**	265.0000	319.0000	608.0000	1780.0000**	292.0000	181.0000
Thallium	NA	< 6.6200	< 6.6200	< 6.6200	< 6.6200	< 6.6200	< 6.6200	< 6.6200
Vanadium	NA	36.0000**	11.5000	11.0000	18.6000	22.7000	11.8000	6.0600
Zinc	NA	90.9000	187.0000**	188.0000**	704.0000**	70.8000	238.0000**	41.0000

Notes: ** = [illegible]'s above the background concentration for the depth shown, < = No[illegible]ected at the value shown, NA = Not analyzed

TOOELE AD-NORTH AREA: SWMU , 1 - MAIN DEMOLITION AREA
SOIL ANALYTICAL RESULTS FOR METALS

Sample ID	EP-01-055	EP-01-055-DUP	EP-01-056	EP-01-056-DUP	EP-01-056	EP-01-057	EP-01-057	EP-01-058
Lab ID	01L1*110	01L1*239	01L1*111	01L1*240	01L1*112	01L1*113	01L1*114	01L1*115
Date Sampled	06/17/92	06/17/92	06/17/92	06/17/92	06/17/92	06/17/92	06/17/92	06/18/92
Depth (ft)	5.000 ft	5.000 ft	2.000 ft	2.000 ft	4.500 ft	2.500 ft	5.000 ft	3.000 ft
Metals and Cyanide (ug/g)								
Aluminum	2220.0000	1600.0000	1670.0000	1540.0000	1310.0000	3290.0000	2580.0000	1600.0000
Antimony	< 7.1400	< 7.1400	< 7.1400	< 7.1400	< 7.1400	< 7.1400	< 7.1400	< 7.1400
Arsenic	2.2300	2.1800	2.7900	2.8500	2.6800	3.2100	1.8900	2.5000
Barium	97.1000	65.9000	58.2000	56.5000	48.2000	187.0000	307.0000**	58.6000
Beryllium	< 0.5000	< 0.5000	< 0.5000	< 0.5000	< 0.5000	< 0.5000	< 0.5000	< 0.5000
Cadmium	1.3200**	0.8480**	1.5000**	1.7400**	0.8500**	3.3900**	< 0.7000	1.6900**
Calcium	13000.0000	32800.0000	18000.0000	22600.0000	27200.0000	22300.0000	24300.0000	21000.0000
Chromium	< 4.0500	< 4.0500	< 4.0500	< 4.0500	< 4.0500	23.1000**	< 4.0500	< 4.0500
Cobalt	< 1.4200	< 1.4200	< 1.4200	< 1.4200	< 1.4200	1.9200	< 1.4200	< 1.4200
Copper	2340.0000**	74.5000**	88.4000**	105.0000**	74.5000**	132.0000**	24.4000	115.0000**
Cyanide	< 0.9200	< 0.9200	2.2700**	< 0.9200	< 0.9200	< 0.9200	< 0.9200	1.0600**
Iron	4640.0000	3750.0000	5290.0000	4610.0000	3760.0000	6910.0000	3900.0000	4660.0000
Lead	108.0000**	12.0000	8.5800	8.3000	5.2000	57.9800**	8.8200	5.6900
Magnesium	2250.0000	2300.0000	2040.0000	2300.0000	2240.0000	3480.0000	2310.0000	3090.0000
Manganese	69.3000	75.5000	72.0000	78.8000	56.1000	112.0000	70.5000	77.1000
Mercury	< 0.0500	0.0636**	< 0.0500	< 0.0500	< 0.0500	0.1260**	0.0706**	< 0.0500
Nickel	4.5000	2.3200	3.6000	3.3800	2.7000	17.0000**	2.7700	3.2300
Potassium	508.0000	397.0000	589.0000	545.0000	761.0000	402.0000	484.0000	644.0000
Selenium	< 0.2500	< 0.2500	< 0.2500	< 0.2500	< 0.2500	< 0.2500	< 0.2500	< 0.2500
Silver	< 0.5890	< 0.5890	< 0.5890	< 0.5890	< 0.5890	< 0.5890	< 0.5890	< 0.5890
Sodium	222.0000	212.0000	729.0000	765.0000	1800.0000**	202.0000	282.0000	275.0000
Thallium	< 6.6200	< 6.6200	< 6.6200	< 6.6200	< 6.6200	< 6.6200	< 6.6200	< 6.6200
Vanadium	6.1200	5.6700	6.3100	5.0400	5.1500	6.0000	6.8200	5.2400
Zinc	1260.0000**	60.5000	50.0000	51.9000	37.2000	91.8000	62.8000	51.2000

Notes: ** = Value is above the background concentration for the depth shown, < = Not detected at the value shown, NA = Not analyzed

TOOELE AD-NORTH AREA: SWMU NO. 1 - MAIN DEMOLITION AREA
SOIL ANALYTICAL RESULTS FOR METALS

Sample ID	EP-01-058	EP-01-059	EP-01-059-DUP	EP-01-059	EP-01-060	EP-01-060	EP-01-061	EP-01-061-DUP
Lab ID	OIL1*116	OIL1*117	OIL1*241	OIL1*118	OIL1*119	OIL1*120	OIL1*121	OIL1*242
Date Sampled	06/18/92	06/18/92	06/18/92	06/18/92	06/18/92	06/18/92	06/18/92	06/18/92
Depth (ft)	5.000 ft	0.000 ft	0.000 ft	5.000 ft	2.500 ft	5.500 ft	4.500 ft	4.500 ft
Metals and Cyanide (ug/g)								
Aluminum	1860.0000	8090.0000	7390.0000	6600.0000	7890.0000	9700.0000	5720.0000	8250.0000
Antimony	< 7.1400	< 7.1400	< 7.1400	< 7.1400	< 7.1400	< 7.1400	< 7.1400	< 7.1400
Arsenic	2.8400	4.0500	3.9100	7.0500	6.6200	4.9800	4.0200	6.6500
Barium	67.9000	104.0000	95.0000	146.0000	108.0000	133.0000	90.5000	95.9000
Beryllium	< 0.5000	< 0.5000	< 0.5000	< 0.5000	0.6250	0.7420	< 0.5000	0.8650
Cadmium	1.8600**	3.5400**	3.7200**	< 0.7000	< 0.7000	< 0.7000	1.6000**	1.9800**
Calcium	24300.0000	26800.0000	31000.0000	74000.0000**	27300.0000	43000.0000	22300.0000	23000.0000
Chromium	7.1200	11.6000	9.9000	9.1800	12.9000	13.0000	8.9900	11.2000
Cobalt	< 1.4200	2.8400	2.0500	4.1700	4.9400	6.0000	3.5400	3.2300
Copper	133.0000**	59.8000**	60.7000**	7.7000	39.8000**	9.9100	137.0000**	199.0000**
Cyanide	1.9200**	2.5800**	6.2900**	1.3800**	< 0.9200	< 0.9200	< 0.9200	1.6000**
Iron	7020.0000	9370.0000	7650.0000	9670.0000	11800.0000	12000.0000	10000.0000	14100.0000
Lead	7.0100	40.1000	42.2000	13.0000	19.0000	14.0000	30.4000	30.1000
Magnesium	2450.0000	4490.0000	5530.0000	7760.0000	6620.0000	9130.0000	4500.0000	5150.0000
Manganese	93.2000	157.0000	157.0000	219.0000	360.0000	459.0000	223.0000	259.0000
Mercury	< 0.0500	< 0.0500	< 0.0500	0.0598**	< 0.0500	< 0.0500	< 0.0500	< 0.0500
Nickel	5.1600	8.1400	7.1300	11.2000	14.4000	14.2000	9.6100	13.1000
Potassium	661.0000	1870.0000	1800.0000	1450.0000	2920.0000	2790.0000	1800.0000	1930.0000
Selenium	< 0.2500	< 0.2500	< 0.2500	< 0.2500	< 0.2500	< 0.2500	< 0.2500	< 0.2500
Silver	< 0.5890	< 0.5890	< 0.5890	< 0.5890	< 0.5890	< 0.5890	< 0.5890	< 0.5890
Sodium	321.0000	324.0000	309.0000	4140.0000**	270.0000	369.0000	227.0000	263.0000
Thallium	< 6.6200	< 6.6200	< 6.6200	< 6.6200	< 6.6200	< 6.6200	< 6.6200	< 6.6200
Vanadium	5.8700	11.9000	11.9000	24.1000	17.3000	22.0000	11.7000	13.3000
Zinc	53.4000	254.0000**	194.0000**	30.1000	77.5000	51.7000	170.0000**	245.0000**

Notes: ** = [illegible] is above the background concentration for the depth shown, < = No[illegible]ected at the value shown, NA = Not analyzed

TOOELE AD-NORTH AREA: SWA . 1 - MAIN DEMOLITION AREA
SOIL ANALYTICAL RESULTS FOR METALS

Sample ID	EP-01-061	EP-01-062	EP-01-062	EP-01-063	EP-01-063	EP-01-064	EP-01-064-DUP	EP-01-064
Lab ID	OILL1*122	OILL1*123	OILL1*124	OILL1*126	OILL1*125	OILL1*127	OILL1*243	OILL1*128
Date Sampled	06/18/92	06/23/92	06/23/92	06/23/92	06/23/92	06/23/92	06/23/92	06/23/92
Depth (ft)	7.000 ft	2.500 ft	6.000 ft	1.000 ft	5.000 ft	0.500 ft	0.500 ft	5.000 ft
Metals and Cyanide (ug/g)								
Aluminum	10400.0000	6000.0000	19300.0000**	3140.0000	15400.0000	5620.0000	4150.0000	21200.0000**
Antimony	< 7.1400	< 7.1400	< 7.1400	< 7.1400	< 7.1400	< 7.1400	< 7.1400	< 7.1400
Arsenic	5.1000	3.0700	5.5900	2.9100	6.0700	4.0000	4.4800	10.0000
Barium	147.0000	76.4000	220.0000	471.0000**	178.0000	123.0000	119.0000	235.0000
Beryllium	0.8890	< 0.5000	2.0900**	0.9070	1.8000**	< 0.5000	0.8400	1.6000
Cadmium	< 0.7000	1.9600**	< 0.7000	0.8400	< 0.7000	3.9100**	3.3800**	< 0.7000
Calcium	41000.0000	26800.0000	37600.0000	27700.0000	45600.0000	27000.0000	16900.0000	45200.0000
Chromium	12.9000	9.6300	20.4000	8.0500	18.1000	12.4000	9.6700	24.8000**
Cobalt	6.0800	2.6400	8.4300**	2.0800	7.2900**	2.4500	2.1700	8.3400**
Copper	12.3000	215.0000**	19.8000	196.0000**	16.1000	52.5000**	53.2000**	17.9000
Cyanide	< 0.9200	< 0.9200	< 0.9200	1.4500**	1.4400**	< 0.9200	< 0.9200	< 0.9200
Iron	12100.0000	8200.0000	19500.0000	16600.0000	17200.0000	8400.0000	5380.0000	20700.0000
Lead	14.0000	40.3000	21.0000	13.0000	20.0000	399.0000**	418.0000**	21.0000
Magnesium	8990.0000	4010.0000	12200.0000	3850.0000	13500.0000**	4200.0000	3360.0000	11000.0000
Manganese	467.0000	174.0000	691.0000**	128.0000	577.0000**	190.0000	162.0000	510.0000
Mercury	< 0.0500	< 0.0500	< 0.0500	0.0808**	< 0.0500	< 0.0500	< 0.0500	< 0.0500
Nickel	13.5000	7.0000	20.8000**	12.0000	18.3000**	6.3000	5.4400	23.2000**
Potassium	3120.0000	1460.0000	6930.0000**	747.0000	4230.0000	2110.0000	1730.0000	4630.0000
Selenium	< 0.2500	< 0.2500	< 0.2500	< 0.2500	< 0.2500	< 0.2500	< 0.2500	< 0.2500
Silver	< 0.5890	< 0.5890	< 0.5890	< 0.5890	< 0.5890	< 0.5890	< 0.5890	< 0.5890
Sodium	453.0000	269.0000	584.0000	246.0000	477.0000	308.0000	260.0000	2080.0000**
Thallium	< 6.6200	< 6.6200	10.7000**	< 6.6200	15.8000**	< 6.6200	< 6.6200	12.9000**
Vanadium	22.3000	11.8000	30.6000**	7.1900	28.8000	12.4000	8.0500	38.6000**
Zinc	53.8000	328.0000**	82.3000	168.0000**	72.0000	94.0000	95.1000	86.1000

tes: ** = Value is above the background concentration for the depth shown, < = Not detected at the value shown, NA = Not analyzed

TOOELE AD-NORTH AREA: SWMU NO. 1 - MAIN DEMOLITION AREA
SOIL ANALYTICAL RESULTS FOR METALS

Sample ID	EP-01-065	EP-01-065	EP-01-066	EP-01-066	EP-01-067	EP-01-067	EP-01-068	EP-01-068
Lab ID	OIL1*129	OIL1*130	OIL1*131	OIL1*132	OIL1*133	OIL1*134	OIL1*135	OIL1*136
Date Sampled	06/23/92	06/23/92	06/24/92	06/24/92	06/24/92	06/24/92	06/24/92	06/24/92
Depth (ft)	0.000 ft	4.500 ft	3.000 ft	5.000 ft	0.000 ft	4.500 ft	3.000 ft	5.000 ft
Metals and Cyanide (ug/g)								
Aluminum	9780.0000	17300.0000	2720.0000	2050.0000	1770.0000	2600.0000	2230.0000	2060.0000
Antimony	< 7.1400	< 7.1400	< 7.1400	< 7.1400	< 7.1400	< 7.1400	< 7.1400	< 7.1400
Arsenic	4.2300	7.8700	2.7400	6.3400	2.8700	2.6000	2.9200	9.3700
Barium	209.0000	200.0000	90.2000	68.1000	62.8000	72.2000	69.3000	72.5000
Beryllium	1.2600	2.0100**	< 0.5000	1.9100**	< 0.5000	0.5720	0.6460	0.6110
Cadmium	2.0700**	< 0.7000	2.1800**	1.9200**	1.2400**	1.5100**	1.9000**	1.7700**
Calcium	29400.0000	51200.0000	24400.0000	27500.0000	23600.0000	23800.0000	25200.0000	32100.0000
Chromium	16.3000	22.4000**	7.6300	71.7000**	5.6000	7.9100	7.3900	6.6500
Cobalt	3.8300	8.0200**	1.9000	4.8900	< 1.4200	1.8700	2.0700	< 1.4200
Copper	97.9000**	16.2000	191.0000**	140.0000**	85.1000**	213.0000**	142.0000**	122.0000**
Cyanide	< 0.9200	< 0.9200	< 0.9200	2.0300**	< 0.9200	< 0.9200	< 0.9200	< 0.9200
Iron	12100.0000	18100.0000	5630.0000	67000.0000**	4380.0000	5160.0000	5110.0000	5370.0000
Lead	169.0000**	NA	6.3400	5.6600	6.4000	4.7000	7.1300	6.7200
Magnesium	7850.0000	10200.0000	2750.0000	3120.0000	2680.0000	3270.0000	3970.0000	2580.0000
Manganese	367.0000	479.0000	84.3000	626.0000**	80.4000	76.3000	78.1000	83.7000
Mercury	< 0.0500	< 0.0500	0.0563**	0.0570**	< 0.0500	< 0.0500	< 0.0500	< 0.0500
Nickel	12.7000	21.7000**	5.2700	38.2000**	4.4000	5.7500	4.7300	5.6000
Potassium	4290.0000	3510.0000	797.0000	577.0000	550.0000	844.0000	607.0000	558.0000
Selenium	< 0.2500	< 0.2500	< 0.2500	< 0.2500	< 0.2500	< 0.2500	< 0.2500	< 0.2500
Silver	< 0.5890	< 0.5890	< 0.5890	< 0.5890	< 0.5890	< 0.5890	< 0.5890	< 0.5890
Sodium	356.0000	3010.0000**	303.0000	289.0000	261.0000	323.0000	319.0000	325.0000
Thallium	8.1800	14.6000**	< 6.6200	33.0000**	< 6.6200	< 6.6200	< 6.6200	< 6.6200
Vanadium	20.0000	32.8000**	8.6100	< 3.3900	6.5100	7.8100	9.8700	6.2300
Zinc	117.0000**	84.0000	77.3000	65.6000	44.9000	72.7000	55.5000	61.0000

Notes: ** = V 's above the background concentration for the depth shown, < = Nc ected at the value shown, NA = Not analyzed

TOOELE AD-NORTH AREA: SWh. . 1 - MAIN DEMOLITION AREA
SOIL ANALYTICAL RESULTS FOR METALS

Sample ID	EP-01-068-DUP	EP-01-069	EP-01-069	EP-01-069-DUP	EP-01-070	EP-01-070-DUP	EP-01-070	EP-01-071
Lab ID	OIL1*248	OIL1*137	OIL1*138	OIL1*249	OIL1*139	OIL1*250	OIL1*140	OIL1*141
Date Sampled	06/24/92	06/24/92	06/24/92	06/24/92	06/25/92	06/25/92	06/25/92	06/25/92
Depth (ft)	5.000 ft	3.500 ft	5.500 ft	5.500 ft	3.000 ft	3.000 ft	5.000 ft	2.500 ft
Metals and Cyanide (ug/g)								
Aluminum	1420.0000	1830.0000	1910.0000	1810.0000	1660.0000	1770.0000	2440.0000	2330.0000
Antimony	< 7.1400	< 7.1400	< 7.1400	< 7.1400	< 7.1400	< 7.1400	< 7.1400	< 7.1400
Arsenic	3.0800	2.7500	2.1000	2.6900	2.7300	2.7100	2.4100	2.1000
Barium	62.8000	84.6000	68.2000	73.8000	92.2000	89.9000	88.1000	101.0000
Beryllium	< 0.5000	0.5820	< 0.5000	< 0.5000	< 0.5000	< 0.5000	0.5900	< 0.5000
Cadmium	1.5600**	1.4900**	1.1800**	1.1400**	1.8400**	1.5100**	3.0700**	3.8400**
Calcium	17600.0000	24100.0000	26500.0000	26200.0000	30200.0000	23300.0000	21800.0000	31200.0000
Chromium	4.9900	6.0100	4.8400	4.9300	4.9400	14.3000	8.4000	8.2800
Cobalt	< 1.4200	< 1.4200	< 1.4200	< 1.4200	< 1.4200	2.5300	< 1.4200	< 1.4200
Copper	180.0000**	108.0000**	97.8000**	98.0000**	77.4000**	99.0000**	114.0000**	154.0000**
Cyanide	< 0.9200	< 0.9200	< 0.9200	< 0.9200	< 0.9200	< 0.9200	< 0.9200	< 0.9200
Iron	4520.0000	4460.0000	4220.0000	3640.0000	3540.0000	22000.0000	4640.0000	5350.0000
Lead	5.1800	6.4300	3.4400	4.9000	7.1000	6.8900	5.7500	10.1000
Magnesium	1960.0000	2790.0000	3600.0000	3230.0000	2630.0000	3110.0000	3130.0000	3060.0000
Manganese	68.6000	72.5000	72.4000	72.3000	74.7000	251.0000	74.9000	95.2000
Mercury	0.0803**	< 0.0500	0.0572**	0.0928**	0.0902**	NA	0.0838**	0.0679**
Nickel	4.2000	5.0400	4.2700	4.3600	4.4600	8.2100	5.6200	5.9800
Potassium	357.0000	513.0000	579.0000	492.0000	395.0000	431.0000	622.0000	665.0000
Selenium	< 0.2500	< 0.2500	< 0.2500	< 0.2500	< 0.2500	< 0.2500	< 0.2500	< 0.2500
Silver	< 0.5890	< 0.5890	< 0.5890	< 0.5890	< 0.5890	< 0.5890	< 0.5890	< 0.5890
Sodium	221.0000	248.0000	268.0000	255.0000	214.0000	214.0000	297.0000	281.0000
Thallium	< 6.6200	< 6.6200	< 6.6200	< 6.6200	< 6.6200	< 6.6200	< 6.6200	< 6.6200
Vanadium	< 3.3900	5.7900	6.5800	5.0000	5.2400	4.2500	7.6900	6.1500
Zinc	57.8000	98.6000	55.5000	56.[illegible]	59.5000	63.6000	75.0000	74.4000

ıtes: ** = Value is above the background concentration for the depth shown, < = Not detected at the value shown, NA = Not analyzed

TOOELE AD-NORTH AREA: SWMU NO. 1 - MAIN DEMOLITION AREA
SOIL ANALYTICAL RESULTS FOR METALS

Sample ID	EP-01-071-DUP	EP-01-071	EP-01-072	EP-01-072	EP-01-073	EP-01-073	EP-01-074	EP-01-074
Lab ID	OIL1*251	OIL1*142	OIL1*143	OIL1*144	OIL1*145	OIL1*146	OIL1*147	OIL1*148
Date Sampled	06/25/92	06/25/92	06/26/92	06/26/92	06/26/92	06/26/92	06/26/92	06/26/92
Depth (ft)	2.500 ft	5.500 ft	0.000 ft	4.500 ft	0.000 ft	5.500 ft	2.500 ft	9.500 ft
Metals and Cyanide (ug/g)								
Aluminum	NA	2290.0000	13100.0000	19600.0000**	5200.0000	15900.0000	11400.0000	14500.0000
Antimony	NA	< 7.1400	62.5000**	< 7.1400	28.1000**	< 7.1400	< 7.1400	< 7.1400
Arsenic	NA	1.4100	4.9000	4.4700	4.5400	3.9900	5.4500	6.4900
Barium	NA	88.5000	1730.0000**	190.0000	924.0000**	177.0000	222.0000	572.0000**
Beryllium	NA	0.7180	1.2300	1.5200	0.8650	1.9600**	1.6800	1.3600
Cadmium	NA	1.7600**	92.2000**	< 0.7000	39.2000**	< 0.7000	6.8500**	2.8900**
Calcium	NA	24200.0000	24600.0000	45000.0000	24100.0000	41100.0000	37500.0000	23300.0000
Chromium	NA	5.1000	19.7000	22.1000**	13.3000	17.9000	21.3000**	50.5000**
Cobalt	NA	< 1.4200	5.1500	7.4500**	3.7100	7.3500**	5.5900	4.8100
Copper	NA	63.0000**	191.0000**	22.8000	319.0000**	16.8000	59.5000**	1620.0000**
Cyanide	< 0.9200	< 0.9200	1.3800**	< 0.9200	< 0.9200	< 0.9200	< 0.9200	< 0.9200
Iron	NA	4720.0000	12500.0000	17700.0000	18200.0000	16000.0000	12700.0000	18700.0000
Lead	NA	130.0000**	68000.0000**	165.0000**	26000.0000**	83.7000**	2860.0000**	345.0000**
Magnesium	NA	3640.0000	6160.0000	11700.0000	2800.0000	11200.0000	9050.0000	5570.0000
Manganese	NA	79.7000	326.0000	515.0000	231.0000	513.0000	429.0000	421.0000
Mercury	NA	0.1020**	0.2040**	< 0.0500	0.1180**	< 0.0500	< 0.0500	< 0.0500
Nickel	NA	3.7900	17.7000**	18.9000**	15.4000	19.1000**	15.1000	17.9000**
Potassium	NA	717.0000	3090.0000	6160.0000**	1300.0000	5220.0000	3840.0000	2650.0000
Selenium	NA	< 0.2500	< 0.2500	< 0.2500	< 0.2500	< 0.2500	< 0.2500	< 0.2500
Silver	NA	< 0.5890	0.9880**	< 0.5890	0.8230**	< 0.5890	< 0.5890	0.7830**
Sodium	NA	334.0000	412.0000	1320.0000	419.0000	1770.0000**	631.0000	938.0000
Thallium	NA	< 6.6200	77.0000**	12.1000**	35.8000**	19.5000**	14.9000**	14.0000**
Vanadium	NA	6.9700	19.2000	32.0000**	8.8700	26.0000	22.3000	24.8000
Zinc	NA	54.4000	69000.0000**	209.0000**	24000.0000**	134.0000**	2930.0000**	1130.0000**

Notes: ** = V 's above the background concentration for the depth shown, < = Not cted at the value shown, NA = Not analyzed

TOOELE AD-NORTH AREA: SWM . 1 - MAIN DEMOLITION AREA
SOIL ANALYTICAL RESULTS FOR METALS

Sample ID	EP-01-075	EP-01-075	EP-01-076	EP-01-076	EP-01-077	EP-01-077	EP-01-078	EP-01-078
Lab ID	01L1*149	01L1*150	01L1*151	01L1*152	01L1*153	01L1*154	01L1*155	01L1*156
Date Sampled	06/26/92	06/26/92	06/28/92	06/28/92	06/29/92	06/29/92	06/29/92	06/29/92
Depth (ft)	0.500 ft	5.000 ft	0.000 ft	5.500 ft	0.000 ft	4.500 ft	0.000 ft	5.000 ft
Metals and Cyanide (ug/g)								
Aluminum	9420.0000	22700.0000**	3470.0000	4060.0000	4900.0000	17200.0000	4990.0000	16500.0000
Antimony	20.8000**	< 7.1400	< 7.1400	< 7.1400	< 7.1400	< 7.1400	< 7.1400	< 7.1400
Arsenic	5.4000	5.6500	3.2000	3.9100	2.3700	7.9200	3.7500	7.8700
Barium	165.0000	245.0000	94.6000	94.7000	67.0000	167.0000	70.2000	185.0000
Beryllium	1.0200	1.8700**	0.5960	0.6860	0.7420	1.6900	0.6770	1.7200**
Cadmium	203.0000**	1.0800**	2.9200**	0.8970**	< 0.7000	< 0.7000	< 0.7000	< 0.7000
Calcium	31400.0000	39300.0000	25300.0000	33200.0000	19400.0000	42700.0000	17800.0000	28400.0000
Chromium	17.9000	24.7000**	8.8600	6.1600	7.3400	25.2000**	6.5200	21.9000**
Cobalt	3.4300	7.8400**	< 1.4200	1.8700	1.9900	7.3000**	2.8300	7.7300**
Copper	90.3000**	20.6000	248.0000**	160.0000**	17.9000	17.8000	9.2600	16.5000
Cyanide	2.0000**	< 0.9200	< 0.9200	< 0.9200	< 0.9200	< 0.9200	< 0.9200	< 0.9200
Iron	14100.0000	20000.0000	5790.0000	5990.0000	5810.0000	18300.0000	6920.0000	17400.0000
Lead	71.4000**	15.0000	7.8600	25.0000	6.6700	16.0000	6.2700	14.0000
Magnesium	5700.0000	12600.0000	2580.0000	5570.0000	4120.0000	11900.0000	3640.0000	8820.0000
Manganese	313.0000	588.0000**	97.4000	119.0000	181.0000	372.0000	174.0000	575.0000**
Mercury	< 0.0500	< 0.0500	0.1070**	0.1030**	< 0.0500	< 0.0500	< 0.0500	< 0.0500
Nickel	11.2000	20.7000**	6.1000	5.4600	5.8800	25.6000**	6.5400	20.8000**
Potassium	3070.0000	7160.0000**	544.0000	1130.0000	1640.0000	2950.0000	1530.0000	3590.0000
Selenium	< 0.2500	< 0.2500	< 0.2500	< 0.2500	< 0.2500	< 0.2500	< 0.2500	< 0.2500
Silver	< 0.5890	< 0.5890	< 0.5890	< 0.5890	< 0.5890	< 0.5890	< 0.5890	< 0.5890
Sodium	509.0000	2090.0000**	233.0000	294.0000	243.0000	2920.0000**	255.0000	3240.0000**
Thallium	10.1000**	23.0000**	< 6.6200	< 6.6200	< 6.6200	26.9000**	< 6.6200	21.0000**
Vanadium	18.5000	36.2000**	6.0200	11.2000	11.1000	36.4000**	11.5000	32.0000**
Zinc	206.0000**	101.0000	94.8000	117.0000**	30.6000	96.9000	25.6000	78.4000

tes: ** = Value is above the background concentration for the depth shown, < = Not detected at the value shown, NA = Not analyzed

TOOELE AD-NORTH AREA: SWMU NO. 1 - MAIN DEMOLITION AREA
SOIL ANALYTICAL RESULTS FOR METALS

Sample ID	EP-01-079	EP-01-079	EP-01-080	EP-01-080	EP-01-081	EP-01-081	EP-01-082	EP-01-082
Lab ID	OIL1*157	OIL1*158	OIL1*159	OIL1*160	OIL1*161	OIL1*162	OIL1*163	OIL1*164
Date Sampled	06/29/92	06/29/92	06/29/92	06/29/92	06/30/92	06/30/92	06/30/92	06/30/92
Depth (ft)	0.000 ft	5.500 ft	0.000 ft	6.000 ft	0.000 ft	5.500 ft	1.000 ft	5.000 ft
Metals and Cyanide (ug/g)								
Aluminum	4420.0000	18800.0000**	6540.0000	19100.0000**	18500.0000**	9120.0000	180000.0000**	7990.0000
Antimony	< 7.1400	< 7.1400	< 7.1400	< 7.1400	< 7.1400	< 7.1400	< 7.1400	< 7.1400
Arsenic	3.5700	8.8300	4.0700	25.0000	6.5000	9.2300	< 5.0000	5.8900
Barium	66.1000	213.0000	79.2000	217.0000	244.0000	96.1000	230.0000	144.0000
Beryllium	0.8970	1.7300**	0.8450	1.8500**	1.7000	1.4900	0.7130	1.1700
Cadmium	< 0.7000	< 0.7000	< 0.7000	< 0.7000	0.9520**	< 0.7000	3.4900**	< 0.7000
Calcium	19100.0000	20300.0000	28400.0000	40700.0000	27200.0000	73000.0000**	19100.0000	57600.0000
Chromium	6.4400	28.2000**	10.0000	22.6000**	20.5000	14.4000	12.5000	10.6000
Cobalt	2.4900	7.3200**	3.2900	8.1100**	7.3700**	5.0500	1.9100	4.5100
Copper	16.3000	18.0000	13.6000	18.1000	82.3000**	10.2000	314.0000**	9.6800
Cyanide	< 0.9200	< 0.9200	< 0.9200	< 0.9200	< 0.9200	< 0.9200	4.9200**	< 0.9200
Iron	5990.0000	19100.0000	7690.0000	19200.0000	17800.0000	11800.0000	5230.0000	9850.0000
Lead	7.6300	14.0000	8.5100	14.0000	21.0000	12.0000	62.5000**	9.6400
Magnesium	3550.0000	7520.0000	4690.0000	11200.0000	11200.0000	20700.0000**	3550.0000	8330.0000
Manganese	164.0000	589.0000**	182.0000	568.0000**	583.0000**	463.0000	148.0000	219.0000
Mercury	< 0.0500	0.0558**	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500
Nickel	5.7600	20.9000**	6.9600	20.8000**	20.1000**	17.2000**	8.3200	11.2000
Potassium	1510.0000	4190.0000	2060.0000	4600.0000	7010.0000**	1280.0000	1090.0000	2870.0000
Selenium	< 0.2500	< 0.2500	< 0.2500	< 0.2500	< 0.2500	< 0.2500	< 0.2500	< 0.2500
Silver	< 0.5890	< 0.5890	< 0.5890	< 0.5890	< 0.5890	< 0.5890	< 0.5890	< 0.5890
Sodium	211.0000	2700.0000**	285.0000	3970.0000**	422.0000	1220.0000	273.0000	372.0000
Thallium	< 6.6200	20.6000**	9.3100	22.5000**	19.6000**	17.9000**	14.6000**	14.0000**
Vanadium	10.8000	41.4000**	16.2000	35.7000**	28.6000	26.4000	17.3000	20.3000
Zinc	27.3000	98.7000	30.3000	79.6000	104.0000	53.4000	382.0000**	34.1000

Notes: ** = V[illegible] is above the background concentration for the depth shown, < = No[illegible]ected at the value shown, NA = Not analyzed

TOOELE AD-NORTH AREA: SWMU ... 1 - MAIN DEMOLITION AREA
SOIL ANALYTICAL RESULTS FOR METALS

Sample ID	EP-01-082-DUP
Lab ID	OIL1*247
Date Sampled	06/30/92
Depth (ft)	5.000 ft
Metals and Cyanide (ug/g)	
Aluminum	6350.0000
Antimony	< 7.1400
Arsenic	5.9200
Barium	133.0000
Beryllium	0.7210
Cadmium	< 0.7000
Calcium	63000.0000
Chromium	8.1800
Cobalt	4.2000
Copper	8.6100
Cyanide	< 0.9200
Iron	8260.0000
Lead	10.3000
Magnesium	7650.0000
Manganese	187.0000
Mercury	< 0.0500
Nickel	9.3400
Potassium	2300.0000
Selenium	< 0.2500
Silver	< 0.5890
Sodium	376.0000
Thallium	< 6.6200
Vanadium	16.4000
Zinc	30.1000

5-2-28

·tes: ** = Value is above the background concentration for the depth shown, < = Not detected at the value shown, NA = Not analyzed

TOOELE AD-NORTH AREA: SWMU NO. 1 - MAIN DEMOLITION AREA
SOIL ANALYTICAL RESULTS FOR ORGANIC COMPOUNDS

Sample ID	SB-01-001	SB-01-001	SB-01-001	SB-01-001	SB-01-001	SB-01-001	SB-01-001	SB-01-002
Lab ID	OIL1*259	OIL1*260	OIL1*261	OIL1*262	OIL1*263	OIL1*264	OIL1*265	OIL1*266
Date Sampled	07/23/92	07/23/92	07/23/92	07/23/92	07/24/92	07/24/92	07/24/92	07/27/92
Depth (ft)	5.000 ft	10.000 ft	20.000 ft	30.000 ft	40.000 ft	75.000 ft	80.000 ft	5.000 ft
Volatile Organic Compounds (ug/g)								
Acetone	NA	NA	NA	NA	NA	NA	NA	NA
Ethylbenzene	NA	NA	NA	NA	NA	NA	NA	NA
Methylene chloride	NA	NA	NA	NA	NA	NA	NA	NA
Trichlorofluoromethane	NA	NA	NA	NA	NA	NA	NA	NA
Xylenes	NA	NA	NA	NA	NA	NA	NA	NA
Tetrachloroethene	NA	NA	NA	NA	NA	NA	NA	NA
Toluene	NA	NA	NA	NA	NA	NA	NA	NA
Semivolatile Organic Compounds (ug/g)								
1-Phenylnaphthalene	NA	NA	NA	NA	NA	NA	NA	NA
2,6,10,14-Tetramethylpentadecane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
2-(1-Methylethyl) naphthalene	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthene	NA	NA	NA	NA	NA	NA	NA	NA
Bis (2-ethylhexyl) phthalate	NA	NA	NA	NA	NA	NA	NA	NA
Eicosane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
Fluorene	NA	NA	NA	NA	NA	NA	NA	NA
Heneicosane	NA	NA	NA	NA	NA	NA	NA	NA
Heptadecane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
Hexadecane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
Hexamethylcyclotrisiloxane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
Mesityl oxide / 4-Methyl-3-penten-2-one	NA	NA	NA	NA	NA	NA	NA	NA
Napthalene	NA	NA	NA	NA	NA	NA	NA	NA
Octadecane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
Pentacosane	NA	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	NA	NA	NA	NA	NA	NA	NA	NA
Pyrene	NA	NA	NA	NA	NA	NA	NA	NA
Tetradecane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
Tridecane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
n-Nitrosodiphenylamine	NA	NA	NA	NA	NA	NA	NA	NA
Pesticides (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA
Herbicides (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA

Notes: ** = / e was detected at the conentration shown < = Not detected at the v shown, NA = Not analyzed

TOOELE AD-NORTH AREA: SWM. . 1 - MAIN DEMOLITION AREA
SOIL ANALYTICAL RESULTS FOR ORGANIC COMPOUNDS

Sample ID	SB-01-001	SB-01-001	SB-01-001	SB-01-001	SB-01-001	SB-01-001	SB-01-001	SB-01-002
Lab ID	OIL1*259	OIL1*260	OIL1*261	OIL1*262	OIL1*263	OIL1*264	OIL1*265	OIL1*266
Date Sampled	07/23/92	07/23/92	07/23/92	07/23/92	07/24/92	07/24/92	07/24/92	07/27/92
Depth (ft)	5.000 ft	10.000 ft	20.000 ft	30.000 ft	40.000 ft	75.000 ft	80.000 ft	5.000 ft
Total Petroleum Hydrocarbons (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA
Explosives (ug/g)								
1,3,5-Trinitrobenzene	< 0.4880	< 0.4880	< 0.4880	< 0.4880	< 0.4880	< 0.4880	< 0.4880	< 0.4880
1,3-Dinitrobenzene	< 0.4960	< 0.4960	< 0.4960	< 0.4960	< 0.4960	< 0.4960	< 0.4960	< 0.4960
2,4,6-Trinitrotoluene	< 0.4560	< 0.4560	< 0.4560	< 0.4560	< 0.4560	< 0.4560	< 0.4560	< 0.4560
2,4-Dinitrotoluene	< 0.4240	< 0.4240	< 0.4240	< 0.4240	< 0.4240	< 0.4240	< 0.4240	< 0.4240
2,6-Dinitrotoluene	< 0.5240	< 0.5240	< 0.5240	< 0.5240	< 0.5240	< 0.5240	< 0.5240	< 0.5240
2-Nitrotoluene (TIC)	< 0.3070	< 0.3070	< 0.3070	< 0.3070	< 0.3070	< 0.3070	< 0.3070	< 0.3070
Cyclonite (RDX)	< 0.5870	< 0.5870	< 0.5870	< 0.5870	< 0.5870	< 0.5870	< 0.5870	< 0.5870
Cyclotetramethylenetetranitramine (HMX)	< 0.6660	< 0.6660	< 0.6660	< 0.6660	< 0.6660	< 0.6660	< 0.6660	< 0.6660
Nitramine (Tetryl)	< 0.7310	< 0.7310	< 0.7310	< 0.7310	< 0.7310	< 0.7310	< 0.7310	< 0.7310
Nitrobenzene	< 2.4100	< 2.4100	< 2.4100	< 2.4100	< 2.4100	< 2.4100	< 2.4100	< 2.4100
Dioxins/Furans (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA

Notes: ** = Analyte was detected at the conentration shown < = Not detected at the value shown, NA = Not analyzed

TOOELE AD-NORTH AREA: SWMU NO. 1 - MAIN DEMOLITION AREA
SOIL ANALYTICAL RESULTS FOR ORGANIC COMPOUNDS

Sample ID	SB-01-002	SB-01-002	SB-01-002	SB-01-002	SB-01-002	SB-01-002	SB-01-003	SB-01-003
Lab ID	OIL1*267	OIL1*268	OIL1*269	OIL1*270	OIL1*271	OIL1*272	OIL1*273	OIL1*274
Date Sampled	07/27/92	07/27/92	07/27/92	07/27/92	07/27/92	07/27/92	07/26/92	07/26/92
Depth (ft)	15.000 ft	35.000 ft	50.000 ft	80.000 ft	90.000 ft	100.000 ft	5.000 ft	15.000 ft
Volatile Organic Compounds (ug/g)								
Acetone	NA	NA	NA	NA	NA	NA	NA	NA
Ethylbenzene	NA	NA	NA	NA	NA	NA	NA	NA
Methylene chloride	NA	NA	NA	NA	NA	NA	NA	NA
Trichlorofluoromethane	NA	NA	NA	NA	NA	NA	NA	NA
Xylenes	NA	NA	NA	NA	NA	NA	NA	NA
Tetrachloroethene	NA	NA	NA	NA	NA	NA	NA	NA
Toluene	NA	NA	NA	NA	NA	NA	NA	NA
Semivolatile Organic Compounds (ug/g)								
1-Phenylnaphthalene	NA	NA	NA	NA	NA	NA	NA	NA
2,6,10,14-Tetramethylpentadecane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
2-(1-Methylethyl) naphthalene	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthene	NA	NA	NA	NA	NA	NA	NA	NA
Bis (2-ethylhexyl) phthalate	NA	NA	NA	NA	NA	NA	NA	NA
Eicosane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
Fluorene	NA	NA	NA	NA	NA	NA	NA	NA
Heneicosane	NA	NA	NA	NA	NA	NA	NA	NA
Heptadecane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
Hexadecane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
Hexamethylcyclotrisiloxane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
Mesityl oxide / 4-Methyl-3-penten-2-one	NA	NA	NA	NA	NA	NA	NA	NA
Napthalene	NA	NA	NA	NA	NA	NA	NA	NA
Octadecane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
Pentacosane	NA	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	NA	NA	NA	NA	NA	NA	NA	NA
Pyrene	NA	NA	NA	NA	NA	NA	NA	NA
Tetradecane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
Tridecane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
n-Nitrosodiphenylamine	NA	NA	NA	NA	NA	NA	NA	NA
Pesticides (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA
Herbicides (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA

Notes: ** = ' was detected at the conentration shown < = Not detected at the ' shown, NA = Not analyzed

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TOOELE AD-NORTH AREA: SW 1 - MAIN DEMOLITION AREA
SOIL ANALYTICAL RESULTS FOR ORGANIC COMPOUNDS

Sample ID	SB-01-002	SB-01-002	SB-01-002	SB-01-002	SB-01-002	SB-01-002	SB-01-003	SB-01-003
Lab ID	OIL1*267	OIL1*268	OIL1*269	OIL1*270	OIL1*271	OIL1*272	OIL1*273	OIL1*274
Date Sampled	07/27/92	07/27/92	07/27/92	07/27/92	07/27/92	07/27/92	07/26/92	07/26/92
Depth (ft)	15.000 ft	35.000 ft	50.000 ft	80.000 ft	90.000 ft	100.000 ft	5.000 ft	15.000 ft
Total Petroleum Hydrocarbons (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA
Explosives (ug/g)								
1,3,5-Trinitrobenzene	< 0.4880	< 0.4880	< 0.4880	< 0.4880	< 0.4880	< 0.4880	< 0.4880	< 0.4880
1,3-Dinitrobenzene	< 0.4960	< 0.4960	< 0.4960	< 0.4960	< 0.4960	< 0.4960	< 0.4960	< 0.4960
2,4,6-Trinitrotoluene	< 0.4560	< 0.4560	< 0.4560	< 0.4560	< 0.4560	< 0.4560	< 0.4560	< 0.4560
2,4-Dinitrotoluene	< 0.4240	< 0.4240	< 0.4240	< 0.4240	< 0.4240	< 0.4240	< 0.4240	< 0.4240
2,6-Dinitrotoluene	< 0.5240	< 0.5240	< 0.5240	< 0.5240	< 0.5240	< 0.5240	< 0.5240	< 0.5240
2-Nitrotoluene (TIC)	< 0.3070	< 0.3070	< 0.3070	< 0.3070	< 0.3070	< 0.3070	< 0.3070	< 0.3070
Cyclonite (RDX)	< 0.5870	< 0.5870	< 0.5870	< 0.5870	< 0.5870	< 0.5870	< 0.5870	< 0.5870
Cyclotetramethylenetetranitramine (HMX)	< 0.6660	< 0.6660	< 0.6660	< 0.6660	< 0.6660	< 0.6660	< 0.6660	< 0.6660
Nitramine (Tetryl)	< 0.7310	< 0.7310	< 0.7310	< 0.7310	< 0.7310	< 0.7310	< 0.7310	< 0.7310
Nitrobenzene	< 2.4100	< 2.4100	< 2.4100	< 2.4100	< 2.4100	< 2.4100	< 2.4100	< 2.4100
Dioxins/Furans (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA

tes: ** = Analyte was detected at the conentration shown < = Not detected at the value shown, NA = Not analyzed

TOOELE AD-NORTH AREA: SWMU NO. 1 - MAIN DEMOLITION AREA
SOIL ANALYTICAL RESULTS FOR ORGANIC COMPOUNDS

Sample ID	SB-01-003-DUP	SB-01-003	SB-01-003	SB-01-003	SB-01-003	SB-01-003	EP-01-001	EP-01-001
Lab ID	OIL1*295	OIL1*275	OIL1*276	OIL1*277	OIL1*278	OIL1*279	NSOIL1*1	NSOIL1*2
Date Sampled	07/26/92	07/26/92	07/26/92	07/26/92	07/26/92	07/26/92	05/29/92	05/29/92
Depth (ft)	15.000 ft	25.000 ft	35.000 ft	45.000 ft	70.000 ft	100.000 ft	2.000 ft	4.000 ft
Volatile Organic Compounds (ug/g)								
Acetone	NA	NA	NA	NA	NA	NA	NA	NA
Ethylbenzene	NA	NA	NA	NA	NA	NA	NA	NA
Methylene chloride	NA	NA	NA	NA	NA	NA	NA	NA
Trichlorofluoromethane	NA	NA	NA	NA	NA	NA	NA	NA
Xylenes	NA	NA	NA	NA	NA	NA	NA	NA
Tetrachloroethene	NA	NA	NA	NA	NA	NA	NA	NA
Toluene	NA	NA	NA	NA	NA	NA	NA	NA
Semivolatile Organic Compounds (ug/g)								
1-Phenylnaphthalene	NA	NA	NA	NA	NA	NA	NA	NA
2,6,10,14 Tetramethylpentadecane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
2-(1-Methylethyl) naphthalene	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	NA	NA	•NA	NA	NA	NA	NA	NA
Acenaphthene	NA	NA	NA	NA	NA	NA	NA	NA
Bis (2-ethylhexyl) phthalate	NA	NA	NA	NA	NA	NA	NA	NA
Eicosane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
Fluorene	NA	NA	NA	NA	NA	NA	NA	NA
Heneicosane	NA	NA	NA	NA	NA	NA	NA	NA
Heptadecane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
Hexadecane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
Hexamethylcyclotrisiloxane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
Mesityl oxide / 4-Methyl-3-penten-2-one	NA	NA	NA	NA	NA	NA	NA	NA
Napthalene	NA	NA	NA	NA	NA	NA	NA	NA
Octadecane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
Pentacosane	NA	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	NA	NA	NA	NA	NA	NA	NA	NA
Pyrene	NA	NA	NA	NA	NA	NA	NA	NA
Tetradecane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
Tridecane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
n-Nitrosodiphenylamine	NA	NA	NA	NA	NA	NA	NA	NA
Pesticides (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA
Herbicides (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA

Notes: ** = [illegible] te was detected at the conentration shown < = Not detected at the [illegible] shown, NA = Not analyzed

TOOELE AD-NORTH AREA: SW 1 - MAIN DEMOLITION AREA
SOIL ANALYTICAL RESUL FOR ORGANIC COMPOUNDS

Sample ID	SB-01-003-DUP	SB-01-003	SB-01-003	SB-01-003	SB-01-003	SB-01-003	EP-01-001	EP-01-001
Lab ID	OIL1*295	OIL1*275	OIL1*276	OIL1*277	OIL1*278	OIL1*279	NSOIL1*1	NSOIL1*2
Date Sampled	07/26/92	07/26/92	07/26/92	07/26/92	07/26/92	07/26/92	05/29/92	05/29/92
Depth (ft)	15.000 ft	25.000 ft	35.000 ft	45.000 ft	70.000 ft	100.000 ft	2.000 ft	4.000 ft
Total Petroleum Hydrocarbons (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA
Explosives (ug/g)								
1,3,5-Trinitrobenzene	< 0.4880	< 0.4880	< 0.4880	< 0.4880	< 0.4880	< 0.4880	< 0.4880	< 0.4880
1,3-Dinitrobenzene	< 0.4960	< 0.4960	< 0.4960	< 0.4960	< 0.4960	< 0.4960	< 0.4960	< 0.4960
2,4,6-Trinitrotoluene	< 0.4560	< 0.4560	< 0.4560	< 0.4560	< 0.4560	< 0.4560	< 0.4560	< 0.4560
2,4-Dinitrotoluene	< 0.4240	< 0.4240	< 0.4240	< 0.4240	< 0.4240	< 0.4240	< 0.4240	< 0.4240
2,6-Dinitrotoluene	< 0.5240	< 0.5240	< 0.5240	< 0.5240	< 0.5240	< 0.5240	< 0.5240	< 0.5240
2-Nitrotoluene (TIC)	< 0.3070	< 0.3070	< 0.3070	< 0.3070	< 0.3070	< 0.3070	< 0.3070	< 0.3070
Cyclonite (RDX)	< 0.5870	< 0.5870	< 0.5870	< 0.5870	< 0.5870	< 0.5870	< 0.5870	< 0.5870
Cyclotetramethylenetetranitramine (HMX)	< 0.6660	< 0.6660	< 0.6660	< 0.6660	< 0.6660	< 0.6660	< 0.6660	< 0.6660
Nitramine (Tetryl)	< 0.7310	< 0.7310	< 0.7310	< 0.7310	< 0.7310	< 0.7310	< 0.7310	< 0.7310
Nitrobenzene	< 2.4100	< 2.4100	< 2.4100	< 2.4100	< 2.4100	< 2.4100	< 2.4100	< 2.4100
Dioxins/Furans (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA

tes: ** = Analyte was detected at the conentration shown < = Not detected at the value shown, NA = Not analyzed

TOOELE AD-NORTH AREA: SWMU NO. 1 - MAIN DEMOLITION AREA
SOIL ANALYTICAL RESULTS FOR ORGANIC COMPOUNDS

Sample ID	EP-01-002	EP-01-002	EP-01-003	01-003	EP-01-003	EP-01-004	EP-01-004	EP-01-005
Lab ID	NSOIL1*3	NSOIL1*4	NSOIL1*5	.SOIL1*6	OIL1*365	NSOIL1*7	NSOIL1*8	NSOIL1*9
Date Sampled	05/29/92	05/29/92	05/30/92	05/30/92	07/02/92	05/30/92	05/30/92	05/30/92
Depth (ft)	2.000 ft	3.000 ft	2.000 ft	5.000 ft	6.000 ft	3.000 ft	5.000 ft	3.000 ft
Volatile Organic Compounds (ug/g)								
Acetone	NA	NA	NA	NA	< 0.0170	NA	NA	NA
Ethylbenzene	NA	NA	NA	NA	0.0048**	NA	NA	NA
Methylene chloride	NA	NA	NA	NA	< 0.0120	NA	NA	NA
Trichlorofluoromethane	NA	NA	NA	NA	< 0.0059	NA	NA	NA
Xylenes	NA	NA	NA	NA	0.0280**	NA	NA	NA
Tetrachloroethene	NA	NA	NA	NA	< 0.0008	NA	NA	NA
Toluene	NA	NA	NA	NA	0.0014**	NA	NA	NA
Semivolatile Organic Compounds (ug/g)								
1-Phenylnaphthalene	NA	NA	NA	NA	NA	NA	NA	NA
<,6,10,14-Tetramethylpentadecane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
2-(1-Methylethyl) naphthalene	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	NA	NA	NA	NA	< 0.0490	NA	NA	NA
Acenaphthene	NA	NA	NA	NA	< 0.0360	NA	NA	NA
Bis (2-ethylhexyl) phthalate	NA	NA	NA	NA	< 0.6200	NA	NA	NA
Eicosane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
Fluorene	NA	NA	NA	NA	< 0.0330	NA	NA	NA
Heneicosane	NA	NA	NA	NA	NA	NA	NA	NA
Heptadecane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
Hexadecane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
Hexamethylcyclotrisiloxane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
Mesityl oxide / 4-Methyl-3-penten-2-one	NA	NA	NA	NA	NA	NA	NA	NA
Napthalene	NA	NA	NA	NA	< 0.0370	NA	NA	NA
Octadecane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
Pentacosane	NA	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	NA	NA	NA	NA	< 0.0330	NA	NA	NA
Pyrene	NA	NA	NA	NA	< 0.0330	NA	NA	NA
Tetradecane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
Tridecane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
n-Nitrosodiphenylamine	NA	NA	NA	NA	< 0.1900	NA	NA	NA
Pesticides (ug/g)	NA	NA	NA	NA	ND	NA	NA	NA
Herbicides (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA

Notes: ** = Ar e was detected at the conentration shown < = Not detected at the ve shown, NA = Not analyzed

TOOELE AD-NORTH AREA: SWMU NO. 1 - MAIN DEMOLITION AREA
SOIL ANALYTICAL RESULTS FOR ORGANIC COMPOUNDS

Sample ID	EP-01-002	EP-01-002	EP-01-003	EP-01-003	EP-01-003	EP-01-004	EP-01-004	EP-01-005
Lab ID	NSOIL1*3	NSOIL1*4	NSOIL1*5	NSOIL1*6	OIL1*365	NSOIL1*7	NSOIL1*8	NSOIL1*9
Date Sampled	05/29/92	05/29/92	05/30/92	05/30/92	07/02/92	05/30/92	05/30/92	05/30/92
Depth (ft)	2.000 ft	3.000 ft	2.000 ft	5.000 ft	6.000 ft	3.000 ft	5.000 ft	3.000 ft
Total Petroleum Hydrocarbons (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA
Explosives (ug/g)								
1,3,5-Trinitrobenzene	< 0.4880	< 0.4880	< 0.4880	< 0.4880	NA	< 0.4880	< 0.4880	< 0.4880
1,3-Dinitrobenzene	< 0.4960	< 0.4960	< 0.4960	< 0.4960	NA	< 0.4960	< 0.4960	< 0.4960
2,4,6-Trinitrotoluene	< 0.4560	< 0.4560	< 0.4560	< 0.4560	NA	< 0.4560	< 0.4560	< 0.4560
2,4-Dinitrotoluene	< 0.4240	< 0.4240	< 0.4240	< 0.4240	< 0.1400	< 0.4240	< 0.4240	0.6270**
2,6-Dinitrotoluene	< 0.5240	< 0.5240	< 0.5240	< 0.5240	< 0.0850	< 0.5240	< 0.5240	< 0.5240
2-Nitrotoluene (TIC)	< 0.3070	< 0.3070	< 0.3070	< 0.3070	NA	< 0.3070	< 0.3070	< 0.3070
Cyclonite (RDX)	< 0.5870	< 0.5870	< 0.5870	< 0.5870	NA	< 0.5870	0.7040**	< 0.5870
Cyclotetramethylenetetranitramine (HMX)	< 0.6660	< 0.6660	< 0.6660	< 0.6660	NA	< 0.6660	< 0.6660	< 0.6660
Nitramine (Tetryl)	< 0.7310	< 0.7310	< 0.7310	< 0.7310	NA	< 0.7310	< 0.7310	< 0.7310
Nitrobenzene	< 2.4100	< 2.4100	< 2.4100	< 2.4100	< 0.0450	< 2.4100	< 2.4100	< 2.4100
Dioxins/Furans (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA

tes: ** = Analyte was detected at the conentration shown < = Not detected at the value shown, NA = Not analyzed

TOOELE AD-NORTH AREA: SW . 1 - MAIN DEMOLITION AREA
SOIL ANALYTICAL RESULTS FOR ORGANIC COMPOUNDS

Sample ID	EP-01-005	EP-01-006	EP-01-006	EP-01-007	EP-01-007	EP-01-008	EP-01-008	EP-01-008-DUP
Lab ID	SOIL1*10	SOIL1*11	SOIL1*12	SOIL1*13	SOIL1*14	SOIL1*15	OIL1*360	OIL1*369
Date Sampled	05/30/92	05/30/92	05/30/92	05/30/92	05/30/92	05/31/92	07/02/92	07/02/92
Depth (ft)	7.000 ft	3.000 ft	5.000 ft	3.000 ft	5.000 ft	3.000 ft	6.000 ft	6.000 ft
Volatile Organic Compounds (ug/g)								
Acetone	NA	NA	NA	NA	NA	NA	< 0.0170	NA
Ethylbenzene	NA	NA	NA	NA	NA	NA	< 0.0017	NA
Methylene chloride	NA	NA	NA	NA	NA	NA	< 0.0120	NA
Trichlorofluoromethane	NA	NA	NA	NA	NA	NA	< 0.0059	NA
Xylenes	NA	NA	NA	NA	NA	NA	< 0.0015	NA
Tetrachloroethene	NA	NA	NA	NA	NA	NA	< 9.0008	NA
Toluene	NA	NA	NA	NA	NA	NA	< 0.0008	NA
Semivolatile Organic Compounds (ug/g)								
1-Phenylnaphthalene	NA	NA	NA	NA	NA	NA	NA	NA
2,6,10,14-Tetramethylpentadecane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
2-(1-Methylethyl) naphthalene	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	NA	NA	NA	NA	NA	NA	NA	< 0.0490
Acenaphthene	NA	NA	NA	NA	NA	NA	NA	< 0.0360
Bis (2-ethylhexyl) phthalate	NA	NA	NA	NA	NA	NA	NA	< 0.6200
Eicosane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
Fluorene	NA	NA	NA	NA	NA	NA	NA	< 0.0330
Heneicosane	NA	NA	NA	NA	NA	NA	NA	NA
Heptadecane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
Hexadecane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
Hexamethylcyclotrisiloxane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
Mesityl oxide / 4-Methyl-3-penten-2-one	NA	NA	NA	NA	NA	NA	NA	NA
Napthalene	NA	NA	NA	NA	NA	NA	NA	< 0.0370
Octadecane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
Pentacosane	NA	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	NA	NA	NA	NA	NA	NA	NA	< 0.0330
Pyrene	NA	NA	NA	NA	NA	NA	NA	< 0.0330
Tetradecane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
Tridecane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
n-Nitrosodiphenylamine	NA	NA	NA	NA	NA	NA	NA	< 0.1900
esticides (ug/g)	NA	NA	NA	NA	NA	NA	NA	ND
erbicides (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA

tes: ** = Analyte was detected at the conentration shown < = Not detected at the value shown, NA = Not analyzed

TOOELE AD-NORTH AREA: SWMU NO. 1 - MAIN DEMOLITION AREA
SOIL ANALYTICAL RESULTS FOR ORGANIC COMPOUNDS

Sample ID	EP-01-005	EP-01-006	EP-01-006	EP-01-007	EP-01-007	EP-01-008	EP-01-008	EP-01-008-DUP
Lab ID	SOIL1*10	SOIL1*11	SOIL1*12	SOIL1*13	SOIL1*14	SOIL1*15	OIL1*360	OIL1*369
Date Sampled	05/30/92	05/30/92	05/30/92	05/30/92	05/30/92	05/31/92	07/02/92	07/02/92
Depth (ft)	7.000 ft	3.000 ft	5.000 ft	3.000 ft	5.000 ft	3.000 ft	6.000 ft	6.000 ft
Total Petroleum Hydrocarbons (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA
Explosives (ug/g)								
1,3,5-Trinitrobenzene	< 0.4880	< 0.4880	< 0.4880	< 0.4880	< 0.4880	< 0.4880	NA	NA
1,3-Dinitrobenzene	< 0.4960	< 0.4960	< 0.4960	< 0.4960	< 0.4960	< 0.4960	NA	NA
2,4,6-Trinitrotoluene	< 0.4560	< 0.4560	< 0.4560	< 0.4560	< 0.4560	< 0.4560	NA	NA
2,4-Dinitrotoluene	< 0.4240	< 0.4240	< 0.4240	< 0.4240	< 0.4240	< 0.4240	NA	< 0.1400
2,6-Dinitrotoluene	< 0.5240	< 0.5240	< 0.5240	< 0.5240	< 0.5240	< 0.5240	NA	< 0.0850
2-Nitrotoluene (TIC)	< 0.3070	< 0.3070	< 0.3070	< 0.3070	< 0.3070	< 0.3070	NA	NA
Cyclonite (RDX)	< 0.5870	< 0.5870	< 0.5870	< 0.5870	< 0.5870	4.4700**	NA	NA
Cyclotetramethylenetetranitramine (HMX)	< 0.6660	< 0.6660	< 0.6660	< 0.6660	< 0.6660	< 0.6660	NA	NA
Nitramine (Tetryl)	< 0.7310	< 0.7310	< 0.7310	< 0.7310	< 0.7310	< 0.7310	NA	NA
Nitrobenzene	< 2.4100	< 2.4100	< 2.4100	< 2.4100	< 2.4100	< 2.4100	NA	< 0.0450
Dioxins/Furans (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA

Notes: ** = ' e was detected at the conentration shown < = Not detected at the v shown, NA = Not analyzed

TOOELE AD-NORTH AREA: SWM . 1 - MAIN DEMOLITION AREA
SOIL ANALYTICAL RESULTS FOR ORGANIC COMPOUNDS

Sample ID	EP-01-008	EP-01-009	EP-01-009	EP-01-010	EP-01-010	EP-01-011	EP-01-011-DUP	EP-01-011
Lab ID	SOIL1*16	SOIL1*17	SOIL1*18	SOIL1*19	SOIL1*20	OIL1*218	SOIL1*21	OIL1*357
Date Sampled	05/31/92	05/31/92	05/31/92	05/31/92	05/31/92	05/31/92	05/31/92	07/01/92
Depth (ft)	7.000 ft	1.500 ft	4.500 ft	2.500 ft	5.500 ft	3.000 ft	3.000 ft	4.000 ft
Volatile Organic Compounds (ug/g)								
Acetone	NA	NA	NA	NA	NA	NA	NA	NA
Ethylbenzene	NA	NA	NA	NA	NA	NA	NA	NA
Methylene chloride	NA	NA	NA	NA	NA	NA	NA	NA
Trichlorofluoromethane	NA	NA	NA	NA	NA	NA	NA	NA
Xylenes	NA	NA	NA	NA	NA	NA	NA	NA
Tetrachloroethene	NA	NA	NA	NA	NA	NA	NA	NA
Toluene	NA	NA	NA	NA	NA	NA	NA	NA
Semivolatile Organic Compounds (ug/g)								
1-Phenylnaphthalene	NA	NA	NA	NA	NA	NA	NA	NA
2,6,10,14-Tetramethylpentadecane (TIC)	NA	NA	NA	NA	NA	NA	3.0000**	NA
2-(1-Methylethyl) naphthalene	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	NA	NA	NA	NA	NA	NA	0.7000**	NA
Acenaphthene	NA	NA	NA	NA	NA	NA	< 0.4000	NA
Bis (2-ethylhexyl) phthalate	NA	NA	NA	NA	NA	NA	< 6.0000	NA
Eicosane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
Fluorene	NA	NA	NA	NA	NA	NA	< 0.3000	NA
Heneicosane	NA	NA	NA	NA	NA	NA	NA	NA
Heptadecane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
Hexadecane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
Hexamethylcyclotrisiloxane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
Mesityl oxide / 4-Methyl-3-penten-2-one	NA	NA	NA	NA	NA	NA	NA	NA
Napthalene	NA	NA	NA	NA	NA	NA	< 0.4000	NA
Octadecane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
Pentacosane	NA	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	NA	NA	NA	NA	NA	NA	2.0000**	NA
Pyrene	NA	NA	NA	NA	NA	NA	< 0.3000	NA
Tetradecane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
Tridecane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
n-Nitrosodiphenylamine	NA	NA	NA	NA	NA	NA	< 2.0000	NA
Pesticides (ug/g)	NA	NA	NA	NA	NA	NA	ND	NA
Herbicides (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA

Notes: ** = Analyte was detected at the conentration shown < = Not detected at the value shown, NA = Not analyzed

TOOELE AD-NORTH AREA: SWMU NO. 1 - MAIN DEMOLITION AREA
SOIL ANALYTICAL RESULTS FOR ORGANIC COMPOUNDS

Sample ID	EP-01-008	EP-01-009	EP-01-009	EP-01-010	EP-01-010	EP-01-011	EP-01-011-DUP	EP-01-011
Lab ID	SOIL1*16	SOIL1*17	SOIL1*18	SOIL1*19	SOIL1*20	OIL1*218	SOIL1*21	OIL1*357
Date Sampled	05/31/92	05/31/92	05/31/92	05/31/92	05/31/92	05/31/92	05/31/92	07/01/92
Depth (ft)	7.000 ft	1.500 ft	4.500 ft	2.500 ft	5.500 ft	3.000 ft	3.000 ft	4.000 ft
Total Petroleum Hydrocarbons (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA
Explosives (ug/g)								
1,3,5-Trinitrobenzene	< 0.4880	< 0.4880	< 0.4880	< 0.4880	< 0.4880	< 0.4880	< 0.4880	NA
1,3-Dinitrobenzene	< 0.4960	< 0.4960	< 0.4960	< 0.4960	< 0.4960	< 0.4960	< 0.4960	NA
2,4,6-Trinitrotoluene	< 0.4560	< 0.4560	< 0.4560	< 0.4560	< 0.4560	< 0.4560	< 0.4560	NA
2,4-Dinitrotoluene	< 0.4240	< 0.4240	< 0.4240	< 0.4240	< 0.4240	< 0.4240	< 1.0000	NA
2,6-Dinitrotoluene	< 0.5240	< 0.5240	< 0.5240	< 0.5240	< 0.5240	4.6200**	< 0.8000	NA
2-Nitrotoluene (TIC)	< 0.3070	< 0.3070	< 0.3070	< 0.3070	< 0.3070	< 0.3070	< 0.3070	NA
Cyclonite (RDX)	< 0.5870	1.2100**	< 0.5870	< 0.5870	< 0.5870	< 0.5870	< 0.5870	NA
Cyclotetramethylenetetranitramine (HMX)	< 0.6660	< 0.6660	< 0.6660	< 0.6660	< 0.6660	< 0.6660	< 0.6660	NA
Nitramine (Tetryl)	< 0.7310	< 0.7310	< 0.7310	< 0.7310	< 0.7310	< 0.7310	< 0.7310	NA
Nitrobenzene	< 2.4100	< 2.4100	< 2.4100	< 2.4100	< 2.4100	< 2.4100	< 0.4000	NA
Dioxins/Furans (ug/g)	NA	NA	NA	NA	NA	NA	NA	ND

Notes: ** = A [illegible] was detected at the conentration shown < = Not detected at the v[illegible] shown, NA = Not analyzed

TOOELE AD-NORTH AREA: SWA . 1 - MAIN DEMOLITION AREA
SOIL ANALYTICAL RESULTS FOR ORGANIC COMPOUNDS

Sample ID	EP-01-011	EP-01-011	EP-01-011-DUP	EP-01-011	EP-01-011-DUP	EP-01-012	EP-01-012	EP-01-013
Lab ID	OIL1*361	SOBK1*21	SOIL1*22	OIL1*358	OIL1*371	SOIL1*23	SOIL1*24	SOIL1*25
Date Sampled	07/02/92	05/31/92	05/31/92	07/02/92	07/02/92	05/31/92	05/31/92	06/01/92
Depth (ft)	5.500 ft	6.000 ft	6.000 ft	7.500 ft	7.500 ft	2.000 ft	4.000 ft	1.000 ft
Volatile Organic Compounds (ug/g)								
Acetone	< 0.0170	< 13.0000	< 0.0170	NA	NA	NA	NA	NA
Ethylbenzene	0.0036**	< 0.5000	< 0.0017	NA	NA	NA	NA	NA
Methylene chloride	< 0.0120	< 2.3000	< 0.0120	NA	NA	NA	NA	NA
Trichlorofluoromethane	< 0.0059	< 1.4000	< 0.0059	NA	NA	NA	NA	NA
Xylenes	0.0190**	< 0.8400	< 0.0015	NA	NA	NA	NA	NA
Tetrachloroethene	0.0018**	< 1.6000	< 0.0008	NA	NA	NA	NA	NA
Toluene	0.0030**	< 0.5000	< 0.0008	NA	NA	NA	NA	NA
Semivolatile Organic Compounds (ug/g)								
1-Phenylnaphthalene	NA	NA	NA	NA	NA	NA	NA	NA
2,6,10,14-Tetramethylpentadecane (TIC)	NA	NA	20.0000**	0.8100**	0.6900**	NA	NA	NA
2-(1-Methylethyl) naphthalene	NA	NA	20.0000**	NA	NA	NA	NA	NA
2-Methylnaphthalene	NA	NA	< 0.5000	< 0.0490	< 0.0490	NA	NA	NA
Acenaphthene	NA	NA	5.0000**	< 0.0360	< 0.0360	NA	NA	NA
Bis (2-ethylhexyl) phthalate	NA	NA	< 6.0000	< 0.6200	< 0.6200	NA	NA	NA
Eicosane (TIC)	NA	NA	70.0000**	1.2000**	NA	NA	NA	NA
Fluorene	NA	NA	5.0000**	< 0.0330	< 0.0330	NA	NA	NA
Heneicosane	NA	NA	40.0000**	NA	NA	NA	NA	NA
Heptadecane (TIC)	NA	NA	70.0000**	1.2000**	1.1000**	NA	NA	NA
Hexadecane (TIC)	NA	NA	30.0000**	0.8100**	0.8000**	NA	NA	NA
Hexamethylcyclotrisiloxane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
Mesityl oxide / 4-Methyl-3-penten-2-one	NA	NA	NA	NA	NA	NA	NA	NA
Napthalene	NA	NA	< 0.4000	< 0.0370	< 0.0370	NA	NA	NA
Octadecane (TIC)	NA	NA	NA	NA	1.1000**	NA	NA	NA
Pentacosane	NA	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	NA	NA	10.0000**	< 0.0330	< 0.0330	NA	NA	NA
Pyrene	NA	NA	< 0.3000	< 0.0330	< 0.0330	NA	NA	NA
Tetradecane (TIC)	NA	NA	30.0000**	NA	NA	NA	NA	NA
Tridecane (TIC)	NA	NA	20.0000**	NA	NA	NA	NA	NA
n-Nitrosodiphenylamine	NA	NA	< 2.0000	< 0.1900	< 0.1900	NA	NA	NA
·sticides (ug/g)	NA	NA	ND	ND	ND	NA	NA	NA
:rbicides (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA

ıtes: ** = Analyte was detected at the conentration shown < = Not detected at the value shown, NA = Not analyzed

TOOELE AD-NORTH AREA: SWMU NO. 1 - MAIN DEMOLITION AREA
SOIL ANALYTICAL RESULTS FOR ORGANIC COMPOUNDS

Sample ID	EP-01-011	EP-01-011	EP-01-011-DUP	EP-01-011	EP-01-011-DUP	EP-01-012	EP-01-012	EP-01-013
Lab ID	OIL1*361	SOBK1*21	SOIL1*22	OIL1*358	OIL1*371	SOIL1*23	SOIL1*24	SOIL1*25
Date Sampled	07/02/92	05/31/92	05/31/92	07/02/92	07/02/92	05/31/92	05/31/92	06/01/92
Depth (ft)	5.500 ft	6.000 ft	6.000 ft	7.500 ft	7.500 ft	2.000 ft	4.000 ft	1.000 ft
Total Petroleum Hydrocarbons (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA
Explosives (ug/g)								
1,3,5-Trinitrobenzene	NA	NA	< 0.4880	NA	NA	< 0.4880	< 0.4880	22.4000**
1,3-Dinitrobenzene	NA	NA	< 0.4960	NA	NA	< 0.4960	< 0.4960	< 0.4960
2,4,6-Trinitrotoluene	NA	NA	3.8400**	NA	NA	< 0.4560	< 0.4560	700.0000**
2,4-Dinitrotoluene	NA	NA	< 1.0000	< 0.1400	< 0.1400	< 0.4240	< 0.4240	8.3000**
2,6-Dinitrotoluene	NA	NA	< 0.8000	< 0.0850	< 0.0850	< 0.5240	< 0.5240	< 0.5240
2-Nitrotoluene (TIC)	NA	NA	< 0.3070	NA	NA	< 0.3070	< 0.3070	< 0.3070
Cyclonite (RDX)	NA	NA	< 0.5870	NA	NA	< 0.5870	< 0.5870	130.0000**
Cyclotetramethylenetetranitramine (HMX)	NA	NA	< 0.6660	NA	NA	< 0.6660	< 0.6660	< 0.6660
Nitramine (Tetryl)	NA	NA	< 0.7310	NA	NA	< 0.7310	< 0.7310	< 0.7310
Nitrobenzene	NA	NA	< 0.4000	< 0.0450	< 0.0450	< 2.4100	< 2.4100	< 2.4100
Dioxins/Furans (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA

Notes: ** = Analyte was detected at the conentration shown < = Not detected at the value shown, NA = Not analyzed

TOOELE AD-NORTH AREA: SWA . 1 - MAIN DEMOLITION AREA
SOIL ANALYTICAL RESULTS FOR ORGANIC COMPOUNDS

Sample ID	EP-01-013	EP-01-014	EP-01-014	EP-01-015	EP-01-015	EP-01-016	EP-01-016	EP-01-017
Lab ID	SOIL1*26	SOIL1*28	SOIL1*27	SOIL1*30	SOIL1*29	SOIL1*31	SOIL1*32	SOIL1*33
Date Sampled	06/01/92	06/01/92	06/01/92	06/01/92	06/01/92	06/01/92	06/01/92	06/02/92
Depth (ft)	4.500 ft	3.000 ft	7.000 ft	3.500 ft	6.500 ft	0.000 ft	4.500 ft	0.000 ft
Volatile Organic Compounds (ug/g)								
Acetone	NA	NA	NA	NA	NA	NA	NA	NA
Ethylbenzene	NA	NA	NA	NA	NA	NA	NA	NA
Methylene chloride	NA	NA	NA	NA	NA	NA	NA	NA
Trichlorofluoromethane	NA	NA	NA	NA	NA	NA	NA	NA
Xylenes	NA	NA	NA	NA	NA	NA	NA	NA
Tetrachloroethene	NA	NA	NA	NA	NA	NA	NA	NA
Toluene	NA	NA	NA	NA	NA	NA	NA	NA
Semivolatile Organic Compounds (ug/g)								
1-Phenylnaphthalene	NA	NA	NA	NA	NA	NA	NA	NA
2,6,10,14-Tetramethylpentadecane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
2-(1-Methylethyl) naphthalene	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthene	NA	NA	NA	NA	NA	NA	NA	NA
Bis (2-ethylhexyl) phthalate	NA	NA	NA	NA	NA	NA	NA	NA
Eicosane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
Fluorene	NA	NA	NA	NA	NA	NA	NA	NA
Heneicosane	NA	NA	NA	NA	NA	NA	NA	NA
Heptadecane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
Hexadecane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
Hexamethylcyclotrisiloxane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
Mesityl oxide / 4-Methyl-3-penten-2-one	NA	NA	NA	NA	NA	NA	NA	NA
Napthalene	NA	NA	NA	NA	NA	NA	NA	NA
Octadecane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
Pentacosane	NA	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	NA	NA	NA	NA	NA	NA	NA	NA
Pyrene	NA	NA	NA	NA	NA	NA	NA	NA
Tetradecane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
Tridecane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
n-Nitrosodiphenylamine	NA	NA	NA	NA	NA	NA	NA	NA
'esticides (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA
'erbicides (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA

otes: ** = Analyte was detected at the conentration shown < = Not detected at the value shown, NA = Not analyzed

TOOELE AD-NORTH AREA: SWMU NO. 1 - MAIN DEMOLITION AREA
SOIL ANALYTICAL RESULTS FOR ORGANIC COMPOUNDS

Sample ID	EP-01-013	EP-01-014	EP-01-014	EP-01-015	EP-01-015	EP-01-016	EP-01-016	EP-01-017
Lab ID	SOIL1*26	SOIL1*28	SOIL1*27	SOIL1*30	SOIL1*29	SOIL1*31	SOIL1*32	SOIL1*33
Date Sampled	06/01/92	06/01/92	06/01/92	06/01/92	06/01/92	06/01/92	06/01/92	06/02/92
Depth (ft)	4.500 ft	3.000 ft	7.000 ft	3.500 ft	6.500 ft	0.000 ft	4.500 ft	0.000 ft
Total Petroleum Hydrocarbons (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA
Explosives (ug/g)								
1,3,5-Trinitrobenzene	< 0.4880	< 0.4880	< 0.4880	< 0.4880	< 0.4880	< 0.4880	< 0.4880	< 0.4880
1,3-Dinitrobenzene	< 0.4960	< 0.4960	< 0.4960	< 0.4960	< 0.4960	< 0.4960	< 0.4960	< 0.4960
2,4,6-Trinitrotoluene	< 0.4560	< 0.4560	< 0.4560	< 0.4560	< 0.4560	< 0.4560	< 0.4560	< 0.4560
2,4-Dinitrotoluene	< 0.4240	< 0.4240	< 0.4240	< 0.4240	0.8480**	< 0.4240	< 0.4240	< 0.4240
2,6-Dinitrotoluene	< 0.5240	< 0.5240	< 0.5240	< 0.5240	< 0.5240	< 0.5240	< 0.5240	< 0.5240
2-Nitrotoluene (TIC)	< 0.3070	< 0.3070	< 0.3070	< 0.3070	< 0.3070	< 0.3070	< 0.3070	< 0.3070
Cyclonite (RDX)	< 0.5870	1.4400**	< 0.5870	0.9900**	1.7800**	< 0.5870	< 0.5870	< 0.5870
Cyclotetramethylenetetranitramine (HMX)	< 0.6660	< 0.6660	< 0.6660	< 0.6660	< 0.6660	< 0.6660	< 0.6660	< 0.6660
Nitramine (Tetryl)	< 0.7310	< 0.7310	< 0.7310	< 0.7310	< 0.7310	< 0.7310	< 0.7310	< 0.7310
Nitrobenzene	< 2.4100	< 2.4100	< 2.4100	< 2.4100	< 2.4100	< 2.4100	< 2.4100	< 2.4100
Dioxins/Furans (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA

Notes: ** = A[illegible]te was detected at the conentration shown < = Not detected at the v[illegible] shown, NA = Not analyzed

TOOELE AD-NORTH AREA: SW ,. 1 - MAIN DEMOLITION AREA
SOIL ANALYTICAL RESULTS FOR ORGANIC COMPOUNDS

Sample ID	EP-01-018	EP-01-018	EP-01-018-DUP	EP-01-019	EP-01-019	EP-01-020	EP-01-020	EP-01-021
Lab ID	SOIL1*36	OIL1*219	SOIL1*35	SOIL1*37	SOIL1*38	SOIL1*39	SOIL1*40	SOIL1*41
Date Sampled	06/02/92	06/02/92	06/02/92	06/03/92	06/03/92	06/03/92	06/03/92	06/03/92
Depth (ft)	4.000 ft	6.500 ft	6.500 ft	1.500 ft	7.500 ft	1.500 ft	4.500 ft	2.000 ft
Volatile Organic Compounds (ug/g)								
Acetone	NA	< 0.0170	< 0.0170	NA	NA	NA	NA	NA
Ethylbenzene	NA	< 0.0017	< 0.0017	NA	NA	NA	NA	NA
Methylene chloric	NA	0.0140**	< 0.0120	NA	NA	NA	NA	NA
Trichlorofluoromethane	NA	0.0080**	0.0066**	NA	NA	NA	NA	NA
Xylenes	NA	< 0.0015	< 0.0015	NA	NA	NA	NA	NA
Tetrachloroethene	NA	< 0.0008	< 0.0008	NA	NA	NA	NA	NA
Toluene	NA	0.3300**	< 0.0008	NA	NA	NA	NA	NA
Semivolatile Organic Compounds (ug/g)								
1-Phenylnaphthalene	NA	0.7710**	0.3300**	NA	NA	NA	NA	NA
2,6,10,14-Tetramethylpentadecane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
2-(1-Methylethyl) naphthalene	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	NA	< 0.0490	< 0.0490	NA	NA	NA	NA	NA
Acenaphthene	NA	< 0.0360	< 0.0360	NA	NA	NA	NA	NA
Bis (2-ethylhexyl) phthalate	NA	3.0500**	< 0.6200	NA	NA	NA	NA	NA
Eicosane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
Fluorene	NA	< 0.0330	< 0.0330	NA	NA	NA	NA	NA
Heneicosane	NA	NA	NA	NA	NA	NA	NA	NA
Heptadecane (TIC)	NA	0.3300**	NA	NA	NA	NA	NA	NA
Hexadecane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
Hexamethylcyclotrisiloxane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
Mesityl oxide / 4-Methyl-3-penten-2-one	NA	NA	NA	NA	NA	NA	NA	NA
Napthalene	NA	0.1220**	0.0808**	NA	NA	NA	NA	NA
Octadecane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
Pentacosane	NA	NA	0.3300**	NA	NA	NA	NA	NA
Phenanthrene	NA	0.1480**	0.0908**	NA	NA	NA	NA	NA
Pyrene	NA	< 0.0330	< 0.0330	NA	NA	NA	NA	NA
Tetradecane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
Tridecane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
n-Nitrosodiphenylamine	NA	0.4420**	< 0.1900	NA	NA	NA	NA	NA
esticides (ug/g)	NA	ND	ND	NA	NA	NA	NA	NA
'erbicides (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA

otes: ** = Analyte was detected at the conentration shown < = Not detected at the value shown, NA = Not analyzed

TOOELE AD-NORTH AREA: SWMU NO. 1 - MAIN DEMOLITION AREA
SOIL ANALYTICAL RESULTS FOR ORGANIC COMPOUNDS

Sample ID	EP-01-018	EP-01-018	EP-01-018-DUP	EP-01-019	EP-01-019	EP-01-020	EP-01-020	EP-01-021
Lab ID	SOIL1*36	OIL1*219	SOIL1*35	SOIL1*37	SOIL1*38	SOIL1*39	SOIL1*40	SOIL1*41
Date Sampled	06/02/92	06/02/92	06/02/92	06/03/92	06/03/92	06/03/92	06/03/92	06/03/92
Depth (ft)	4.000 ft	6.500 ft	6.500 ft	1.500 ft	7.500 ft	1.500 ft	4.500 ft	2.000 ft
Total Petroleum Hydrocarbons (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA
Explosives (ug/g)								
1,3,5-Trinitrobenzene	< 0.4880	< 0.4880	< 0.4880	< 0.4880	< 0.4880	4.2100**	< 0.4880	< 0.4880
1,3-Dinitrobenzene	< 0.4960	< 0.4960	< 0.4960	< 0.4960	< 0.4960	< 0.4960	< 0.4960	< 0.4960
2,4,6-Trinitrotoluene	< 0.4560	< 0.4560	< 0.4560	< 0.4560	< 0.4560	450.0000**	< 0.4560	< 0.4560
2,4-Dinitrotoluene	3.3100**	2.9400**	< 0.1400	< 0.4240	< 0.4240	< 0.4240	< 0.4240	< 0.4240
2,6-Dinitrotoluene	< 0.5240	0.1960**	< 0.0850	< 0.5240	< 0.5240	< 0.5240	< 0.5240	< 0.5240
2-Nitrotoluene (TIC)	< 0.3070	< 0.3070	< 0.3070	< 0.3070	< 0.3070	< 0.3070	< 0.3070	< 0.3070
Cyclonite (RDX)	< 0.5870	< 0.5870	< 0.5870	< 0.5870	< 0.5870	< 0.5870	< 0.5870	< 0.5870
Cyclotetramethylenetetranitramine (HMX)	< 0.6660	< 0.6660	< 0.6660	< 0.6660	< 0.6660	< 0.6660	< 0.6660	< 0.6660
Nitramine (Tetryl)	< 0.7310	< 0.7310	< 0.7310	< 0.7310	< 0.7310	< 0.7310	< 0.7310	< 0.7310
Nitrobenzene	< 2.4100	< 0.0450	< 0.0450	< 2.4100	< 2.4100	< 2.4100	< 2.4100	< 2.4100
Dioxins/Furans (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA

Notes: ** = ...te was detected at the conentration shown < = Not detected at the ... shown, NA = Not analyzed

TOOELE AD-NORTH AREA: SWA . 1 - MAIN DEMOLITION AREA
SOIL ANALYTICAL RESULTS FOR ORGANIC COMPOUNDS

Sample ID	EP-01-021	EP-01-022	EP-01-022	EP-01-023	EP-01-023	EP-01-024	EP-01-024	EP-01-025
Lab ID	SOIL1*42	SOIL1*43	SOIL1*44	SOIL1*45	SOIL1*46	SOIL1*47	SOIL1*48	SOIL1*49
Date Sampled	06/03/92	06/04/92	06/04/92	06/04/92	06/04/92	06/04/92	06/04/92	06/04/92
Depth (ft)	4.500 ft	4.000 ft	5.000 ft	4.000 ft	5.500 ft	0.000 ft	4.500 ft	4.500 ft
Volatile Organic Compounds (ug/g)								
Acetone	NA	NA	NA	NA	NA	NA	NA	NA
Ethylbenzene	NA	NA	NA	NA	NA	NA	NA	NA
Methylene chloride	NA	NA	NA	NA	NA	NA	NA	NA
Trichlorofluoromethane	NA	NA	NA	NA	NA	NA	NA	NA
Xylenes	NA	NA	NA	NA	NA	NA	NA	NA
Tetrachloroethene	NA	NA	NA	NA	NA	NA	NA	NA
Toluene	NA	NA	NA	NA	NA	NA	NA	NA
Semivolatile Organic Compounds (ug/g)								
1-Phenylnaphthalene	NA	NA	NA	NA	NA	NA	NA	NA
2,6,10,14-Tetramethylpentadecane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
2-(1-Methylethyl) naphthalene	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthene	NA	NA	NA	NA	NA	NA	NA	NA
Bis (2-ethylhexyl) phthalate	NA	NA	NA	NA	NA	NA	NA	NA
Eicosane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
Fluorene	NA	NA	NA	NA	NA	NA	NA	NA
Heneicosane	NA	NA	NA	NA	NA	NA	NA	NA
Heptadecane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
Hexadecane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
Hexamethylcyclotrisiloxane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
Mesityl oxide / 4-Methyl-3-penten-2-one	NA	NA	NA	NA	NA	NA	NA	NA
Napthalene	NA	NA	NA	NA	NA	NA	NA	NA
Octadecane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
Pentacosane	NA	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	NA	NA	NA	NA	NA	NA	NA	NA
Pyrene	NA	NA	NA	NA	NA	NA	NA	NA
Tetradecane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
Tridecane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
n-Nitrosodiphenylamine	NA	NA	NA	NA	NA	NA	NA	NA
esticides (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA
rbicides (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA

tes: ** = Analyte was detected at the conentration shown < = Not detected at the value shown, NA = Not analyzed

TOOELE AD-NORTH AREA: SWMU NO. 1 - MAIN DEMOLITION AREA
SOIL ANALYTICAL RESULTS FOR ORGANIC COMPOUNDS

Sample ID	EP-01-021	EP-01-022	EP-01-022	EP-01-023	EP-01-023	EP-01-024	EP-01-024	EP-01-025
Lab ID	SOIL1*42	SOIL1*43	SOIL1*44	SOIL1*45	SOIL1*46	SOIL1*47	SOIL1*48	SOIL1*49
Date Sampled	06/03/92	06/04/92	06/04/92	06/04/92	06/04/92	06/04/92	06/04/92	06/04/92
Depth (ft)	4.500 ft	4.000 ft	5.000 ft	4.000 ft	5.500 ft	0.000 ft	4.500 ft	4.500 ft
Total Petroleum Hydrocarbons (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA
Explosives (ug/g)								
1,3,5-Trinitrobenzene	< 0.4880	< 0.4880	< 0.4880	< 0.4880	< 0.4880	< 0.4880	< 0.4880	< 0.4880
1,3-Dinitrobenzene	< 0.4960	< 0.4960	< 0.4960	< 0.4960	< 0.4960	< 0.4960	< 0.4960	< 0.4960
2,4,6-Trinitrotoluene	< 0.4560	< 0.4560	< 0.4560	< 0.4560	< 0.4560	< 0.4560	< 0.4560	< 0.4560
2,4-Dinitrotoluene	< 0.4240	< 0.4240	< 0.4240	< 0.4240	< 0.4240	< 0.4240	< 0.4240	< 0.4240
2,6-Dinitrotoluene	< 0.5240	< 0.5240	< 0.5240	< 0.5240	< 0.5240	< 0.5240	< 0.5240	< 0.5240
2-Nitrotoluene (TIC)	< 0.3070	< 0.3070	< 0.3070	< 0.3070	< 0.3070	< 0.3070	< 0.3070	< 0.3070
Cyclonite (RDX)	< 0.5870	< 0.5870	< 0.5870	< 0.5870	< 0.5870	3.2800**	< 0.5870	< 0.5870
Cyclotetramethylenetetranitramine (HMX)	< 0.6660	< 0.6660	< 0.6660	< 0.6660	< 0.6660	< 0.6660	< 0.6660	< 0.6660
Nitramine (Tetryl)	< 0.7310	< 0.7310	< 0.7310	< 0.7310	< 0.7310	< 0.7310	< 0.7310	< 0.7310
Nitrobenzene	< 2.4100	< 2.4100	< 2.4100	< 2.4100	< 2.4100	< 2.4100	< 2.4100	< 2.4100
Dioxins/Furans (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA

Notes: ** = / [illegible] was detected at the conentration shown < = Not detected at the v [illegible] shown, NA = Not analyzed

TOOELE AD-NORTH AREA: SW. . 1 - MAIN DEMOLITION AREA
SOIL ANALYTICAL RESULTS FOR ORGANIC COMPOUNDS

Sample ID	EP-01-025	EP-01-025	EP-01-025-DUP	EP-01-026	EP-01-026	EP-01-027	EP-01-027	EP-01-028
Lab ID	SOIL1*50	OIL1*364	OIL1*372	SOIL1*51	SOIL1*52	SOIL1*53	SOIL1*54	SOIL1*55
Date Sampled	06/04/92	07/02/92	07/02/92	06/09/92	06/09/92	06/09/92	06/09/92	06/09/92
Depth (ft)	6.500 ft	8.000 ft	8.000 ft	4.500 ft	7.000 ft	3.500 ft	5.000 ft	4.500 ft
Volatile Organic Compounds (ug/g)								
Acetone	NA	< 0.0170	NA	NA	< 0.0170	NA	NA	NA
Ethylbenzene	NA	< 0.0017	NA	NA	< 0.0017	NA	NA	NA
Methylene chloride	NA	< 0.0120	NA	NA	< 0.0120	NA	NA	NA
Trichlorofluoromethane	NA	< 0.0059	NA	NA	< 0.0059	NA	NA	NA
Xylenes	NA	< 0.0015	NA	NA	< 0.0015	NA	NA	NA
Tetrachloroethene	NA	< 0.0008	NA	NA	< 0.0008	NA	NA	NA
Toluene	NA	< 0.0008	NA	NA	< 0.0008	NA	NA	NA
Semivolatile Organic Compounds (ug/g)								
1-Phenylnaphthalene	NA	NA	NA	NA	NA	NA	NA	NA
2,6,10,14-Tetramethylpentadecane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
2-(1-Methylethyl) naphthalene	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	NA	NA	< 0.0490	NA	< 0.0490	NA	NA	NA
Acenaphthene	NA	NA	< 0.0360	NA	< 0.0360	NA	NA	NA
Bis (2-ethylhexyl) phthalate	NA	NA	< 0.6200	NA	< 0.6200	NA	NA	NA
Eicosane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
Fluorene	NA	NA	< 0.0330	NA	< 0.0330	NA	NA	NA
Heneicosane	NA	NA	NA	NA	NA	NA	NA	NA
Heptadecane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
Hexadecane (TIC)	NA	NA	NA	NA	NA	NA	N'	NA
Hexamethylcyclotrisiloxane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
Mesityl oxide / 4-Methyl-3-penten-2-one	NA	NA	NA	NA	NA	NA	NA	NA
Napthalene	NA	NA	< 0.0370	NA	< 0.0370	NA	NA	NA
Octadecane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
Pentacosane	NA	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	NA	NA	< 0.0330	NA	< 0.0330	NA	NA	NA
Pyrene	NA	NA	< 0.0330	NA	< 0.0330	NA	NA	NA
Tetradecane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
Tridecane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
n-Nitrosodiphenylamine	NA	NA	< 0.1900	NA	< 0.1900	NA	NA	NA
·sticides (ug/g)	NA	NA	ND	NA	ND	NA	NA	NA
·rbicides (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA

·tes: ** = Analyte was detected at the conentration shown < = Not detected at the value shown, NA = Not analyzed

TOOELE AD-NORTH AREA: SWMU NO. 1 - MAIN DEMOLITION AREA
SOIL ANALYTICAL RESULTS FOR ORGANIC COMPOUNDS

Sample ID	EP-01-025	EP-01-025	EP-01-025-DUP	EP-01-026	EP-01-026	EP-01-027	EP-01-027	EP-01-028
Lab ID	SOIL1*50	OIL1*364	OIL1*372	SOIL1*51	SOIL1*52	SOIL1*53	SOIL1*54	SOIL1*55
Date Sampled	06/04/92	07/02/92	07/02/92	06/09/92	06/09/92	06/09/92	06/09/92	06/09/92
Depth (ft)	6.500 ft	8.000 ft	8.000 ft	4.500 ft	7.000 ft	3.500 ft	5.000 ft	4.500 ft
Total Petroleum Hydrocarbons (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA
Explosives (ug/g)								
1,3,5-Trinitrobenzene	< 0.4880	NA	NA	< 0.4880	< 0.4880	< 0.4880	< 0.4880	< 0.4880
1,3-Dinitrobenzene	< 0.4960	NA	NA	< 0.4960	< 0.4960	< 0.4960	< 0.4960	< 0.4960
2,4,6-Trinitrotoluene	< 0.4560	NA	NA	< 0.4560	< 0.4560	1.8400**	< 0.4560	< 0.4560
2,4-Dinitrotoluene	< 0.4240	NA	< 0.1400	< 0.4240	< 0.1400	< 0.4240	< 0.4240	< 0.4240
2,6-Dinitrotoluene	< 0.5240	NA	< 0.0850	< 0.5240	< 0.0850	< 0.5240	< 0.5240	< 0.5240
2-Nitrotoluene (TIC)	< 0.3070	NA	NA	< 0.3070	< 0.3070	< 0.3070	< 0.3070	< 0.3070
Cyclonite (RDX)	< 0.5870	NA	NA	< 0.5870	< 0.5870	< 0.5870	< 0.5870	< 0.5870
Cyclotetramethylenetetranitramine (HMX)	< 0.6660	NA	NA	< 0.6660	< 0.6660	< 0.6660	< 0.6660	< 0.6660
Nitramine (Tetryl)	< 0.7310	NA	NA	< 0.7310	< 0.7310	< 0.7310	< 0.7310	< 0.7310
Nitrobenzene	< 2.4100	NA	< 0.0450	< 2.4100	< 0.0450	< 2.4100	< 2.4100	< 2.4100
Dioxins/Furans (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA

Notes: ** = Ar was detected at the conentration shown < = Not detected at the va' 'hown, NA = Not analyzed

TOOELE AD-NORTH AREA: S\ ). 1 - MAIN DEMOLITION AREA
SOIL ANALYTICAL RESULTS FOR ORGANIC COMPOUNDS

Sample ID	EP-01-028	EP-01-029	EP-01-029	EP-01-029-DUP	EP-01-030	EP-01-030	EP-01-031	EP-01-031
Lab ID	SOIL1*56	SOIL1*57	OIL1*220	SOIL1*58	SOIL1*59	SOIL1*60	SOIL1*62	SOIL1*61
Date Sampled	06/09/92	06/09/92	06/09/92	06/09/92	06/10/92	06/10/92	06/10/92	06/10/92
Depth (ft)	7.000 ft	3.500 ft	5.000 ft	5.000 ft	3.000 ft	6.500 ft	0.000 ft	5.500 ft
Volatile Organic Compounds (ug/g)								
Acetone	NA	NA	NA	NA	NA	NA	NA	NA
Ethylbenzene	NA	NA	NA	NA	NA	NA	NA	NA
Methylene chloride	NA	NA	NA	NA	NA	NA	NA	NA
Trichlorofluoromethane	NA	NA	NA	NA	NA	NA	NA	NA
Xylenes	NA	NA	NA	NA	NA	NA	NA	NA
Tetrachloroethene	NA	NA	NA	NA	NA	NA	NA	NA
Toluene	NA	NA	NA	NA	NA	NA	NA	NA
Semivolatile Organic Compounds (ug/g)								
1-Phenylnaphthalene	NA	NA	NA	NA	NA	NA	NA	NA
2,6,10,14-Tetramethylpentadecane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
2-(1-Methylethyl) naphthalene	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthene	NA	NA	NA	NA	NA	NA	NA	NA
Bis (2-ethylhexyl) phthalate	NA	NA	NA	NA	NA	NA	NA	NA
Eicosane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
Fluorene	NA	NA	NA	NA	NA	NA	NA	NA
Heneicosane	NA	NA	NA	NA	NA	NA	NA	NA
Heptadecane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
Hexadecane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
Hexamethylcyclotrisiloxane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
Mesityl oxide / 4-Methyl-3-penten-2-one	NA	NA	NA	NA	NA	NA	NA	NA
Napthalene	NA	NA	NA	NA	NA	NA	NA	NA
Octadecane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
Pentacosane	NA	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	NA	NA	NA	NA	NA	NA	NA	NA
Pyrene	NA	NA	NA	NA	NA	NA	NA	NA
Tetradecane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
Tridecane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
n-Nitrosodiphenylamine	NA	NA	NA	NA	NA	NA	NA	NA
Pesticides (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA
Herbicides (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA

Notes: ** = Analyte was detected at the conentration shown < = Not detected at the value shown, NA = Not analyzed

TOOELE AD-NORTH AREA: SWMU NO. 1 - MAIN DEMOLITION AREA
SOIL ANALYTICAL RESULTS FOR ORGANIC COMPOUNDS

Sample ID	EP-01-028	EP-01-029	EP-01-029	EP-01-029-DUP	EP-01-030	EP-01-030	EP-01-031	EP-01-031
Lab ID	SOIL1*56	SOIL1*57	OIL1*220	SOIL1*58	SOIL1*59	SOIL1*60	SOIL1*62	SOIL1*61
Date Sampled	06/09/92	06/09/92	06/09/92	06/09/92	06/10/92	06/10/92	06/10/92	06/10/92
Depth (ft)	7.000 ft	3.500 ft	5.000 ft	5.000 ft	3.000 ft	6.500 ft	0.000 ft	5.500 ft
Total Petroleum Hydrocarbons (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA
Explosives (ug/g)								
1,3,5-Trinitrobenzene	< 0.4880	< 0.4880	< 0.4880	< 0.4880	< 0.4880	< 0.4880	< 0.4880	< 0.4880
1,3-Dinitrobenzene	< 0.4960	< 0.4960	< 0.4960	< 0.4960	< 0.4960	< 0.4960	< 0.4960	< 0.4960
2,4,6-Trinitrotoluene	< 0.4560	< 0.4560	< 0.4560	< 0.4560	< 0.4560	< 0.4560	< 0.4560	< 0.4560
2,4-Dinitrotoluene	< 0.4240	< 0.4240	< 0.4240	< 0.4240	< 0.4240	< 0.4240	< 0.4240	< 0.4240
2,6-Dinitrotoluene	< 0.5240	< 0.5240	< 0.5240	< 0.5240	< 0.5240	< 0.5240	< 0.5240	< 0.5240
2-Nitrotoluene (TIC)	< 0.3070	< 0.3070	< 0.3070	< 0.3070	< 0.3070	< 0.3070	< 0.3070	< 0.3070
Cyclonite (RDX)	< 0.5870	< 0.5870	< 0.5870	< 0.5870	< 0.5870	< 0.5870	< 0.5870	0.9930**
Cyclotetramethylenetetranitramine (HMX)	< 0.6660	< 0.6660	< 0.6660	< 0.6660	< 0.6660	< 0.6660	< 0.6660	< 0.6660
Nitramine (Tetryl)	< 0.7310	< 0.7310	< 0.7310	< 0.7310	< 0.7310	< 0.7310	< 0.7310	< 0.7310
Nitrobenzene	< 2.4100	< 2.4100	< 2.4100	< 2.4100	< 2.4100	< 2.4100	< 2.4100	< 2.4100
Dioxins/Furans (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA

Notes: ** = te was detected at the conentration shown < = Not detected at the v shown, NA = Not analyzed

TOOELE AD-NORTH AREA: SWMU NO. 1 - MAIN DEMOLITION AREA
SOIL ANALYTICAL RESULTS FOR ORGANIC COMPOUNDS

Sample ID	EP-01-032	EP-01-032	EP-01-033	EP-01-033	EP-01-034	EP-01-034	EP-01-035	EP-01-035
Lab ID	SOIL1*63	SOIL1*64	SOIL1*65	SOIL1*66	SOIL1*67	SOIL1*68	SOIL1*70	SOIL1*69
Date Sampled	06/10/92	06/10/92	06/11/92	06/11/92	06/11/92	06/11/92	06/11/92	06/11/92
Depth (ft)	0.500 ft	5.000 ft	4.000 ft	6.500 ft	3.500 ft	6.000 ft	0.500 ft	6.000 ft
Volatile Organic Compounds (ug/g)								
Acetone	NA	NA	NA	NA	NA	NA	NA	NA
Ethylbenzene	NA	NA	NA	NA	NA	NA	NA	NA
Methylene chloride	NA	NA	NA	NA	NA	NA	NA	NA
Trichlorofluoromethane	NA	NA	NA	NA	NA	NA	NA	NA
Xylenes	NA	NA	NA	NA	NA	NA	NA	NA
Tetrachloroethene	NA	NA	NA	NA	NA	NA	NA	NA
Toluene	NA	NA	NA	NA	NA	NA	NA	NA
Semivolatile Organic Compounds (ug/g)								
1-Phenylnaphthalene	NA	NA	NA	NA	NA	NA	NA	NA
2,6,10,14-Tetramethylpentadecane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
2-(1-Methylethyl) naphthalene	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthene	NA	NA	NA	NA	NA	NA	NA	NA
Bis (2-ethylhexyl) phthalate	NA	NA	NA	NA	NA	NA	NA	NA
Eicosane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
Fluorene	NA	NA	NA	NA	NA	NA	NA	NA
Heneicosane	NA	NA	NA	NA	NA	NA	NA	NA
Heptadecane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
Hexadecane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
Hexamethylcyclotrisiloxane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
Mesityl oxide / 4-Methyl-3-penten-2-one	NA	NA	NA	NA	NA	NA	NA	NA
Napthalene	NA	NA	NA	NA	NA	NA	NA	NA
Octadecane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
Pentacosane	NA	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	NA	NA	NA	NA	NA	NA	NA	NA
Pyrene	NA	NA	NA	NA	NA	NA	NA	NA
Tetradecane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
Tridecane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
n-Nitrosodiphenylamine	NA	NA	NA	NA	NA	NA	NA	NA
Pesticides (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA
Herbicides (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA

Notes: ** = Analyte was detected at the conentration shown < = Not detected at the value shown, NA = Not analyzed

TOOELE AD-NORTH AREA: SWMU NO. 1 - MAIN DEMOLITION AREA
SOIL ANALYTICAL RESULTS FOR ORGANIC COMPOUNDS

Sample ID	EP-01-032	EP-01-032	EP-01-033	EP-01-033	EP-01-034	EP-01-034	EP-01-035	EP-01-035
Lab ID	SOIL1*63	SOIL1*64	SOIL1*65	SOIL1*66	SOIL1*67	SOIL1*68	SOIL1*70	SOIL1*69
Date Sampled	06/10/92	06/10/92	06/11/92	06/11/92	06/11/92	06/11/92	06/11/92	06/11/92
Depth (ft)	0.500 ft	5.000 ft	4.000 ft	6.500 ft	3.500 ft	6.000 ft	0.500 ft	6.000 ft
Total Petroleum Hydrocarbons (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA
Explosives (ug/g)								
1,3,5-Trinitrobenzene	< 0.4880	< 0.4880	< 0.4880	< 0.4880	< 0.4880	< 0.4880	< 0.4880	< 0.4880
1,3-Dinitrobenzene	< 0.4960	< 0.4960	< 0.4960	< 0.4960	< 0.4960	< 0.4960	< 0.4960	< 0.4960
2,4,6-Trinitrotoluene	< 0.4560	< 0.4560	< 0.4560	< 0.4560	< 0.4560	< 0.4560	< 0.4560	< 0.4560
2,4-Dinitrotoluene	< 0.4240	< 0.4240	< 0.4240	< 0.4240	< 0.4240	< 0.4240	< 0.4240	< 0.4240
2,6-Dinitrotoluene	< 0.5240	< 0.5240	< 0.5240	< 0.5240	< 0.5240	< 0.5240	< 0.5240	< 0.5240
2-Nitrotoluene (TIC)	< 0.3070	< 0.3070	< 0.3070	< 0.3070	< 0.3070	< 0.3070	< 0.3070	< 0.3070
Cyclonite (RDX)	1.8300**	< 0.5870	7.0800**	2.6500**	240.0000**	2.7000**	< 0.5870	6.0900**
Cyclotetramethylenetetranitramine (HMX)	< 0.6660	< 0.6660	1.2700**	< 0.6660	18.0000**	< 0.6660	< 0.6660	< 0.6660
Nitramine (Tetryl)	< 0.7310	< 0.7310	< 0.7310	< 0.7310	< 0.7310	< 0.7310	< 0.7310	< 0.7310
Nitrobenzene	< 2.4100	< 2.4100	< 2.4100	< 2.4100	< 2.4100	< 2.4100	< 2.4100	< 2.4100
Dioxins/Furans (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA

Notes: ** = e was detected at the conentration shown < = Not detected at the shown, NA = Not analyzed

TOOELE AD-NORTH AREA: SW. NO. 1 - MAIN DEMOLITION AREA
SOIL ANALYTICAL RESULTS FOR ORGANIC COMPOUNDS

Sample ID	EP-01-036	EP-01-036	EP-01-037	EP-01-037	EP-01-038	EP-01-038	EP-01-039	EP-01-039
Lab ID	SOIL1*71	SOIL1*72	SOIL1*73	SOIL1*74	SOIL1*75	SOIL1*76	SOIL1*77	SOIL1*78
Date Sampled	06/11/92	06/11/92	06/12/92	06/12/92	06/12/92	06/12/92	06/12/92	06/12/92
Depth (ft)	0.000 ft	5.000 ft	0.500 ft	6.500 ft	0.500 ft	7.000 ft	0.000 ft	7.500 ft
Volatile Organic Compounds (ug/g)								
Acetone	NA	NA	NA	NA	NA	NA	NA	NA
Ethylbenzene	NA	NA	NA	NA	NA	NA	NA	NA
Methylene chloride	NA	NA	NA	NA	NA	NA	NA	NA
Trichlorofluoromethane	NA	NA	NA	NA	NA	NA	NA	NA
Xylenes	NA	NA	NA	NA	NA	NA	NA	NA
Tetrachloroethene	NA	NA	NA	NA	NA	NA	NA	NA
Toluene	NA	NA	NA	NA	NA	NA	NA	NA
Semivolatile Organic Compounds (ug/g)								
1-Phenylnaphthalene	NA	NA	NA	NA	NA	NA	NA	NA
2,6,10,14-Tetramethylpentadecane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
2-(1-Methylethyl) naphthalene	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthene	NA	NA	NA	NA	NA	NA	NA	NA
Bis (2-ethylhexyl) phthalate	NA	NA	NA	NA	NA	NA	NA	NA
Eicosane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
Fluorene	NA	NA	NA	NA	NA	NA	NA	NA
Heneicosane	NA	NA	NA	NA	NA	NA	NA	NA
Heptadecane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
Hexadecane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
Hexamethylcyclotrisiloxane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
Mesityl oxide / 4-Methyl-3-penten-2-one	NA	NA	NA	NA	NA	NA	NA	NA
Napthalene	NA	NA	NA	NA	NA	NA	NA	NA
Octadecane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
Pentacosane	NA	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	NA	NA	NA	NA	NA	NA	NA	NA
Pyrene	NA	NA	NA	NA	NA	NA	NA	NA
Tetradecane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
Tridecane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
n-Nitrosodiphenylamine	NA	NA	NA	NA	NA	NA	NA	NA
Pesticides (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA
Herbicides (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA

Notes: ** = Analyte was detected at the conentration shown < = Not detected at the value shown, NA = Not analyzed

TOOELE AD-NORTH AREA: SWMU NO. 1 - MAIN DEMOLITION AREA
SOIL ANALYTICAL RESULTS FOR ORGANIC COMPOUNDS

Sample ID	EP-01-036	EP-01-036	EP-01-037	EP-01-037	EP-01-038	EP-01-038	EP-01-039	EP-01-039
Lab ID	SOIL1*71	SOIL1*72	SOIL1*73	SOIL1*74	SOIL1*75	SOIL1*76	SOIL1*77	SOIL1*78
Date Sampled	06/11/92	06/11/92	06/12/92	06/12/92	06/12/92	06/12/92	06/12/92	06/12/92
Depth (ft)	0.000 ft	5.000 ft	0.500 ft	6.500 ft	0.500 ft	7.000 ft	0.000 ft	7.500 ft
Total Petroleum Hydrocarbons (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA
Explosives (ug/g)								
1,3,5-Trinitrobenzene	< 0.4880	< 0.4880	< 0.4880	< 0.4880	< 0.4880	< 0.4880	< 0.4880	< 0.4880
1,3-Dinitrobenzene	< 0.4960	< 0.4960	< 0.4960	< 0.4960	< 0.4960	< 0.4960	< 0.4960	< 0.4960
2,4,6-Trinitrotoluene	< 0.4560	< 0.4560	< 0.4560	< 0.4560	< 0.4560	< 0.4560	< 0.4560	< 0.4560
2,4-Dinitrotoluene	< 0.4240	< 0.4240	< 0.4240	< 0.4240	< 0.4240	< 0.4240	< 0.4240	< 0.4240
2,6-Dinitrotoluene	< 0.5240	< 0.5240	< 0.5240	< 0.5240	< 0.5240	< 0.5240	< 0.5240	< 0.5240
2-Nitrotoluene (TIC)	< 0.3070	< 0.3070	< 0.3070	< 0.3070	< 0.3070	< 0.3070	< 0.3070	< 0.3070
Cyclonite (RDX)	< 0.5870	0.8490**	0.8000**	< 0.5870	< 0.5870	1.4500**	< 0.5870	< 0.5870
Cyclotetramethylenetetranitramine (HMX)	< 0.6660	< 0.6660	< 0.6660	< 0.6660	< 0.6660	< 0.6660	< 0.6660	< 0.6660
Nitramine (Tetryl)	< 0.7310	< 0.7310	< 0.7310	< 0.7310	< 0.7310	< 0.7310	< 0.7310	< 0.7310
Nitrobenzene	< 2.4100	< 2.4100	< 2.4100	< 2.4100	< 2.4100	< 2.4100	< 2.4100	< 2.4100
Dioxins/Furans (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA

Notes: ** = [illegible]e was detected at the conentration shown < = Not detected at the v[illegible] shown, NA = Not analyzed

TOOELE AD-NORTH AREA: S\ .O. 1 - MAIN DEMOLITION AREA
SOIL ANALYTICAL RESULTS FOR ORGANIC COMPOUNDS

Sample ID	EP-01-040	EP-01-040	EP-01-041	EP-01-041	EP-01-042	EP-01-042-DUP	EP-01-042	EP-01-043
Lab ID	SOIL1*79	SOIL1*80	SOIL1*81	SOIL1*82	OIL1*227	SOIL1*83	SOIL1*84	SOIL1*85
Date Sampled	06/12/92	06/12/92	06/13/92	06/13/92	06/13/92	06/13/92	06/13/92	06/13/92
Depth (ft)	0.000 ft	8.500 ft	0.000 ft	9.000 ft	2.000 ft	2.000 ft	5.000 ft	0.000 ft
Volatile Organic Compounds (ug/g)								
Acetone	NA	NA	NA	NA	NA	NA	NA	NA
Ethylbenzene	NA	NA	NA	NA	NA	NA	NA	NA
Methylene chloride	NA	NA	NA	NA	NA	NA	NA	NA
Trichlorofluoromethane	NA	NA	NA	NA	NA	NA	NA	NA
Xylenes	NA	NA	NA	NA	NA	NA	NA	NA
Tetrachloroethene	NA	NA	NA	NA	NA	NA	NA	NA
Toluene	NA	NA	NA	NA	NA	NA	NA	NA
Semivolatile Organic Compounds (ug/g)								
1-Phenylnaphthalene	NA	NA	NA	NA	NA	NA	NA	NA
2,6,10,14-Tetramethylpentadecane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
2-(1-Methylethyl) naphthalene	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthene	NA	NA	NA	NA	NA	NA	NA	NA
Bis (2-ethylhexyl) phthalate	NA	NA	NA	NA	NA	NA	NA	NA
Eicosane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
Fluorene	NA	NA	NA	NA	NA	NA	NA	NA
Heneicosane	NA	NA	NA	NA	NA	NA	NA	NA
Heptadecane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
Hexadecane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
Hexamethylcyclotrisiloxane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
Mesityl oxide / 4-Methyl-3-penten-2-one	NA	NA	NA	NA	NA	NA	NA	NA
Napthalene	NA	NA	NA	NA	NA	NA	NA	NA
Octadecane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
Pentacosane	NA	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	NA	NA	NA	NA	NA	NA	NA	NA
Pyrene	NA	NA	NA	NA	NA	NA	NA	NA
Tetradecane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
Tridecane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
n-Nitrosodiphenylamine	NA	NA	NA	NA	NA	NA	NA	NA
Pesticides (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA
Herbicides (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA

Notes: ** = Analyte was detected at the conentration shown < = Not detected at the value shown, NA = Not analyzed

TOOELE AD-NORTH AREA: SWMU NO. 1 - MAIN DEMOLITION AREA
SOIL ANALYTICAL RESULTS FOR ORGANIC COMPOUNDS

Sample ID	EP-01-040	EP-01-040	EP-01-041	EP-01-041	EP-01-042	EP-01-042-DUP	EP-01-042	EP-01-043
Lab ID	SOIL1*79	SOIL1*80	SOIL1*81	SOIL1*82	OIL1*227	SOIL1*83	SOIL1*84	SOIL1*85
Date Sampled	06/12/92	06/12/92	06/13/92	06/13/92	06/13/92	06/13/92	06/13/92	06/13/92
Depth (ft)	0.000 ft	8.500 ft	0.000 ft	9.000 ft	2.000 ft	2.000 ft	5.000 ft	0.000 ft
Total Petroleum Hydrocarbons (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA
Explosives (ug/g)								
1,3,5-Trinitrobenzene	< 0.4880	< 0.4880	< 0.4880	< 0.4880	< 0.4880	< 0.4880	< 0.4880	72.0000**
1,3-Dinitrobenzene	< 0.4960	< 0.4960	< 0.4960	< 0.4960	< 0.4960	< 0.4960	< 0.4960	< 0.4960
2,4,6-Trinitrotoluene	< 0.4560	< 0.4560	< 0.4560	< 0.4560	< 0.4560	< 0.4560	< 0.4560	11000.0000**
2,4-Dinitrotoluene	< 0.4240	< 0.4240	< 0.4240	< 0.4240	< 0.4240	< 0.4240	< 0.4240	15.2000**
2,6-Dinitrotoluene	< 0.5240	< 0.5240	< 0.5240	< 0.5240	< 0.5240	< 0.5240	< 0.5240	< 0.5240
2-Nitrotoluene (TIC)	< 0.3070	< 0.3070	< 0.3070	< 0.3070	< 0.3070	< 0.3070	< 0.3070	9.5600**
Cyclonite (RDX)	< 0.5870	0.7040**	< 0.5870	2.0300**	4.2700**	0.7860**	< 0.5870	6.8100**
Cyclotetramethylenetetranitramine (HMX)	< 0.6660	< 0.6660	< 0.6660	< 0.6660	< 0.6660	< 0.6660	< 0.6660	< 0.6660
Nitramine (Tetryl)	< 0.7310	< 0.7310	< 0.7310	< 0.7310	< 0.7310	< 0.7310	< 0.7310	< 0.7310
Nitrobenzene	< 2.4100	< 2.4100	< 2.4100	< 2.4100	< 2.4100	< 2.4100	< 2.4100	26.6000**
Dioxins/Furans (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA

Notes: ** = [illegible] was detected at the conentration shown < = Not detected at the v[illegible] shown, NA = Not analyzed

TOOELE AD-NORTH AREA: SL J. 1 - MAIN DEMOLITION AREA
SOIL ANALYTICAL RESULTS FOR ORGANIC COMPOUNDS

Sample ID	EP-01-043	EP-01-044	EP-01-044	EP-01-045	EP-01-045-DUP	EP-01-045	EP-01-046	EP-01-046-DUP
Lab ID	SOIL1*86	SOIL1*87	SOIL1*88	OIL1*221	SOIL1*89	SOIL1*90	OIL1*222	SOIL1*91
Date Sampled	06/13/92	06/13/92	06/13/92	06/14/92	06/14/92	06/14/92	06/14/92	06/14/92
Depth (ft)	5.000 ft	0.000 ft	5.000 ft	3.500 ft	3.500 ft	5.500 ft	3.000 ft	3.000 ft
Volatile Organic Compounds (ug/g)								
Acetone	NA	NA	NA	NA	NA	NA	NA	NA
Ethylbenzene	NA	NA	NA	NA	NA	NA	NA	NA
Methylene chloride	NA	NA	NA	NA	NA	NA	NA	NA
Trichlorofluoromethane	NA	NA	NA	NA	NA	NA	NA	NA
Xylenes	NA	NA	NA	NA	NA	NA	NA	NA
Tetrachloroethene	NA	NA	NA	NA	NA	NA	NA	NA
Toluene	NA	NA	NA	NA	NA	NA	NA	NA
Semivolatile Organic Compounds (ug/g)								
1-Phenylnaphthalene	NA	NA	NA	NA	NA	NA	NA	NA
2,6,10,14-Tetramethylpentadecane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
2-(1-Methylethyl) naphthalene	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthene	NA	NA	NA	NA	NA	NA	NA	NA
Bis (2-ethylhexyl) phthalate	NA	NA	NA	NA	NA	NA	NA	NA
Eicosane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
Fluorene	NA	NA	NA	NA	NA	NA	NA	NA
Heneicosane	NA	NA	NA	NA	NA	NA	NA	NA
Heptadecane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
Hexadecane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
Hexamethylcyclotrisiloxane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
Mesityl oxide / 4-Methyl-3-penten-2-one	NA	NA	NA	NA	NA	NA	NA	NA
Napthalene	NA	NA	NA	NA	NA	NA	NA	NA
Octadecane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
Pentacosane	NA	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	NA	NA	NA	NA	NA	NA	NA	NA
Pyrene	NA	NA	NA	NA	NA	NA	NA	NA
Tetradecane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
Tridecane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
n-Nitrosodiphenylamine	NA	NA	NA	NA	NA	NA	NA	NA
'esticides (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA
'erbicides (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA

'otes: ** = Analyte was detected at the conentration shown < = Not detected at the value shown, NA = Not analyzed

TOOELE AD-NORTH AREA: SWMU NO. 1 - MAIN DEMOLITION AREA
SOIL ANALYTICAL RESULTS FOR ORGANIC COMPOUNDS

Sample ID	EP-01-043	EP-01-044	EP-01-044	EP-01-045	EP-01-045-DUP	EP-01-045	EP-01-046	EP-01-046-DUP
Lab ID	SOIL1*86	SOIL1*87	SOIL1*88	OIL1*221	SOIL1*89	SOIL1*90	OIL1*222	SOIL1*91
Date Sampled	06/13/92	06/13/92	06/13/92	06/14/92	06/14/92	06/14/92	06/14/92	06/14/92
Depth (ft)	5.000 ft	0.000 ft	5.000 ft	3.500 ft	3.500 ft	5.500 ft	3.000 ft	3.000 ft
Total Petroleum Hydrocarbons (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA
Explosives (ug/g)								
1,3,5-Trinitrobenzene	< 0.4880	< 0.4880	< 0.4880	< 0.4880	< 0.4880	< 0.4880	< 0.4880	< 0.4880
1,3-Dinitrobenzene	< 0.4960	< 0.4960	< 0.4960	< 0.4960	< 0.4960	< 0.4960	< 0.4960	< 0.4960
2,4,6-Trinitrotoluene	< 0.4560	< 0.4560	< 0.4560	< 0.4560	0.5800**	< 0.4560	< 0.4560	< 0.4560
2,4-Dinitrotoluene	< 0.4240	< 0.4240	< 0.4240	< 0.4240	< 0.4240	< 0.4240	< 0.4240	< 0.4240
2,6-Dinitrotoluene	< 0.5240	< 0.5240	< 0.5240	< 0.5240	< 0.5240	< 0.5240	< 0.5240	< 0.5240
2-Nitrotoluene (TIC)	< 0.3070	< 0.3070	< 0.3070	< 0.3070	< 0.3070	< 0.3070	< 0.3070	< 0.3070
Cyclonite (RDX)	< 0.5870	< 0.5870	< 0.5870	7.0900**	8.0800**	2.1000**	3.9800**	< 0.5870
Cyclotetramethylenetetranitramine (HMX)	< 0.6660	< 0.6660	< 0.6660	1.1800**	1.6000**	< 0.6660	< 0.6660	< 0.6660
Nitramine (Tetryl)	< 0.7310	< 0.7310	< 0.7310	< 0.7310	< 0.7310	< 0.7310	< 0.7310	< 0.7310
Nitrobenzene	< 2.4100	< 2.4100	< 2.4100	< 2.4100	< 2.4100	< 2.4100	< 2.4100	< 2.4100
Dioxins/Furans (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA

Notes: ** = A[illegible]e was detected at the conentration shown < = Not detected at the v[illegible] shown, NA = Not analyzed

TOOELE AD-NORTH AREA: SWM. .J. 1 - MAIN DEMOLITION AREA
SOIL ANALYTICAL RESULTS FOR ORGANIC COMPOUNDS

Sample ID	EP-01-046	EP-01-047	EP-01-047-DUP	EP-01-047	EP-01-048	EP-01-048	EP-01-049	EP-01-049
Lab ID	SOIL1*92	OIL1*223	SOIL1*93	SOIL1*94	SOIL1*95	SOIL1*96	SOIL1*97	SOIL1*98
Date Sampled	06/14/92	06/14/92	06/14/92	06/14/92	06/14/92	06/14/92	06/14/92	06/14/92
Depth (ft)	4.500 ft	1.000 ft	1.000 ft	5.000 ft	0.000 ft	4.500 ft	0.000 ft	4.500 ft
Volatile Organic Compounds (ug/g)								
Acetone	NA	NA	NA	NA	NA	NA	NA	NA
Ethylbenzene	NA	NA	NA	NA	NA	NA	NA	NA
Methylene chloride	NA	NA	NA	NA	NA	NA	NA	NA
Trichlorofluoromethane	NA	NA	NA	NA	NA	NA	NA	NA
Xylenes	NA	NA	NA	NA	NA	NA	NA	NA
Tetrachloroethene	NA	NA	NA	NA	NA	NA	NA	NA
Toluene	NA	NA	NA	NA	NA	NA	NA	NA
Semivolatile Organic Compounds (ug/g)								
1-Phenylnaphthalene	NA	NA	NA	NA	NA	NA	NA	NA
2,6,10,14-Tetramethylpentadecane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
2-(1-Methylethyl) naphthalene	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthene	NA	NA	NA	NA	NA	NA	NA	NA
Bis (2-ethylhexyl) phthalate	NA	NA	NA	NA	NA	NA	NA	NA
Eicosane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
Fluorene	NA	NA	NA	NA	NA	NA	NA	NA
Heneicosane	NA	NA	NA	NA	NA	NA	NA	NA
Heptadecane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
Hexadecane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
Hexamethylcyclotrisiloxane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
Mesityl oxide / 4-Methyl-3-penten-2-one	NA	NA	NA	NA	NA	NA	NA	NA
Napthalene	NA	NA	NA	NA	NA	NA	NA	NA
Octadecane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
Pentacosane	NA	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	NA	NA	NA	NA	NA	NA	NA	NA
Pyrene	NA	NA	NA	NA	NA	NA	NA	NA
Tetradecane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
Tridecane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
n-Nitrosodiphenylamine	NA	NA	NA	NA	NA	NA	NA	NA
esticides (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA
erbicides (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA

otes: ** = Analyte was detected at the conentration shown < = Not detected at the value shown, NA = Not analyzed

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TOOELE AD-NORTH AREA: SWMU NO. 1 - MAIN DEMOLITION AREA
SOIL ANALYTICAL RESULTS FOR ORGANIC COMPOUNDS

Sample ID	EP-01-046	EP-01-047	EP-01-047-DUP	EP-01-047	EP-01-048	EP-01-048	EP-01-049	EP-01-049
Lab ID	SOIL1*92	OIL1*223	SOIL1*93	SOIL1*94	SOIL1*95	SOIL1*96	SOIL1*97	SOIL1*98
Date Sampled	06/14/92	06/14/92	06/14/92	06/14/92	06/14/92	06/14/92	06/14/92	06/14/92
Depth (ft)	4.500 ft	1.000 ft	1.000 ft	5.000 ft	0.000 ft	4.500 ft	0.000 ft	4.500 ft
Total Petroleum Hydrocarbons (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA
Explosives (ug/g)								
1,3,5-Trinitrobenzene	< 0.4880	< 0.4880	< 0.4880	< 0.4880	< 0.4880	< 0.4880	< 0.4880	< 0.4880
1,3-Dinitrobenzene	< 0.4960	< 0.4960	< 0.4960	< 0.4960	< 0.4960	< 0.4960	< 0.4960	< 0.4960
2,4,6-Trinitrotoluene	< 0.4560	< 0.4560	< 0.4560	< 0.4560	< 0.4560	< 0.4560	< 0.4560	< 0.4560
2,4-Dinitrotoluene	< 0.4240	< 0.4240	< 0.4240	< 0.4240	< 0.4240	< 0.4240	< 0.4240	< 0.4240
2,6-Dinitrotoluene	< 0.5240	< 0.5240	< 0.5240	< 0.5240	< 0.5240	< 0.5240	< 0.5240	< 0.5240
2-Nitrotoluene (TIC)	< 0.3070	< 0.3070	< 0.3070	< 0.3070	< 0.3070	< 0.3070	< 0.3070	< 0.3070
Cyclonite (RDX)	< 0.5870	33.0000**	55.0000**	< 0.5870	2.7700**	< 0.5870	18.3000**	< 0.5870
Cyclotetramethylenetetranitramine (HMX)	< 0.6660	5.3200**	4.8100**	< 0.6660	< 0.6660	< 0.6660	2.7800**	< 0.6660
Nitramine (Tetryl)	< 0.7310	< 0.7310	< 0.7310	< 0.7310	< 0.7310	< 0.7310	< 0.7310	< 0.7310
Nitrobenzene	< 2.4100	< 2.4100	< 2.4100	< 2.4100	< 2.4100	< 2.4100	< 2.4100	< 2.4100
Dioxins/Furans (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA

Notes: ** = [illegible]e was detected at the conentration shown < = Not detected at the [illegible] shown, NA = Not analyzed

TOOELE AD-NORTH AREA: SWA .. 1 - MAIN DEMOLITION AREA
SOIL ANALYTICAL RESULTS FOR ORGANIC COMPOUNDS

Sample ID	EP-01-050	EP-01-050	EP-01-051	EP-01-051-DUP	EP-01-051	EP-01-052	EP-01-052	EP-01-053
Lab ID	SOIL1*99	OIL1*100	OIL1*101	OIL1*224	OIL1*102	OIL1*103	OIL1*104	OIL1*105
Date Sampled	06/15/92	06/15/92	06/15/92	06/15/92	06/15/92	06/15/92	06/15/92	06/16/92
Depth (ft)	2.500 ft	4.500 ft	2.500 ft	2.500 ft	5.000 ft	2.500 ft	7.000 ft	3.500 ft
Volatile Organic Compounds (ug/g)								
Acetone	NA	NA	NA	NA	NA	NA	NA	NA
Ethylbenzene	NA	NA	NA	NA	NA	NA	NA	NA
Methylene chloride	NA	NA	NA	NA	NA	NA	NA	NA
Trichlorofluoromethane	NA	NA	NA	NA	NA	NA	NA	NA
Xylenes	NA	NA	NA	NA	NA	NA	NA	NA
Tetrachloroethene	NA	NA	NA	NA	NA	NA	NA	NA
Toluene	NA	NA	NA	NA	NA	NA	NA	NA
Semivolatile Organic Compounds (ug/g)								
1-Phenylnaphthalene	NA	NA	NA	NA	NA	NA	NA	NA
2,6,10,14-Tetramethylpentadecane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
2-(1-Methylethyl) naphthalene	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthene	NA	NA	NA	NA	NA	NA	NA	NA
Bis (2-ethylhexyl) phthalate	NA	NA	NA	NA	NA	NA	NA	NA
Eicosane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
Fluorene	NA	NA	NA	NA	NA	NA	NA	NA
Heneicosane	NA	NA	NA	NA	NA	NA	NA	NA
Heptadecane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
Hexadecane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
Hexamethylcyclotrisiloxane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
Mesityl oxide / 4-Methyl-3-penten-2-one	NA	NA	NA	NA	NA	NA	NA	NA
Napthalene	NA	NA	NA	NA	NA	NA	NA	NA
Octadecane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
Pentacosane	NA	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	NA	NA	NA	NA	NA	NA	NA	NA
Pyrene	NA	NA	NA	NA	NA	NA	NA	NA
Tetradecane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
Tridecane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
n-Nitrosodiphenylamine	NA	NA	NA	NA	NA	NA	NA	NA
esticides (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA
erbicides (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA

otes: ** = Analyte was detected at the conentration shown < = Not detected at the value shown, NA = Not analyzed

TOOELE AD-NORTH AREA: SWMU NO. 1 - MAIN DEMOLITION AREA
SOIL ANALYTICAL RESULTS FOR ORGANIC COMPOUNDS

Sample ID	EP-01-050	EP-01-050	EP-01-051	EP-01-051-DUP	EP-01-051	EP-01-052	EP-01-052	EP-01-053
Lab ID	SOIL1*99	OIL1*100	OIL1*101	OIL1*224	OIL1*102	OIL1*103	OIL1*104	OIL1*105
Date Sampled	06/15/92	06/15/92	06/15/92	06/15/92	06/15/92	06/15/92	06/15/92	06/16/92
Depth (ft)	2.500 ft	4.500 ft	2.500 ft	2.500 ft	5.000 ft	2.500 ft	7.000 ft	3.500 ft
Total Petroleum Hydrocarbons (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA
Explosives (ug/g)								
1,3,5-Trinitrobenzene	< 0.4880	< 0.4880	< 0.4880	< 0.4880	< 0.4880	< 0.4880	11.0000**	< 0.4880
1,3-Dinitrobenzene	< 0.4960	< 0.4960	< 0.4960	< 0.4960	< 0.4960	< 0.4960	< 0.4960	< 0.4960
2,4,6-Trinitrotoluene	1.3800**	< 0.4560	< 0.4560	< 0.4560	< 0.4560	< 0.4560	170.0000**	< 0.4560
2,4-Dinitrotoluene	< 0.4240	< 0.4240	< 0.4240	< 0.4240	< 0.4240	< 0.4240	< 0.4240	< 0.4240
2,6-Dinitrotoluene	< 0.5240	< 0.5240	< 0.5240	< 0.5240	< 0.5240	< 0.5240	< 0.5240	< 0.5240
2-Nitrotoluene (TIC)	< 0.3070	< 0.3070	< 0.3070	< 0.3070	< 0.3070	< 0.3070	< 0.3070	< 0.3070
Cyclonite (RDX)	< 0.5870	< 0.5870	12.3000**	8.2600**	< 0.5870	< 0.5870	< 0.5870	< 0.5870
Cyclotetramethylenetetranitramine (HMX)	< 0.6660	< 0.6660	< 0.6660	0.8580**	< 0.6660	< 0.6660	< 0.6660	< 0.6660
Nitramine (Tetryl)	< 0.7310	< 0.7310	< 0.7310	< 0.7310	< 0.7310	< 0.7310	< 0.7310	< 0.7310
Nitrobenzene	< 2.4100	< 2.4100	< 2.4100	< 2.4100	< 2.4100	< 2.4100	< 2.4100	< 2.4100
Dioxins/Furans (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA

Notes: ** = ' `e was detected at the conentration shown < = Not detected at the v shown, NA = Not analyzed

TOOELE AD-NORTH AREA: SWA . 1 - MAIN DEMOLITION AREA
SOIL ANALYTICAL RESULTS FOR ORGANIC COMPOUNDS

Sample ID	EP-01-053-DUP	EP 01-053	EP-01-054	EP-01-054-DUP	EP-01-054	EP-01-055	EP-01-055	EP-01-055-DUP
Lab ID	OIL1*225	OIL1*106	OIL1*107	OIL1*226	OIL1*108	OIL1*109	OIL1*110	OIL1*239
Date Sampled	06/16/92	06/16/92	06/16/92	06/16/92	06/16/92	06/17/92	06/17/92	06/17/92
Depth (ft)	3.500 ft	6.500 ft	2.000 ft	2.000 ft	4.500 ft	2.000 ft	5.000 ft	5.000 ft
Volatile Organic Compounds (ug/g)								
Acetone	NA	< 0.0170	NA	NA	0.0610**	NA	NA	NA
Ethylbenzene	NA	< 0.0017	NA	NA	< 0.0017	NA	NA	NA
Methylene chloride	NA	< 0.0120	NA	NA	< 0.0120	NA	NA	NA
Trichlorofluoromethane	NA	< 0.0059	NA	NA	< 0.0059	NA	NA	NA
Xylenes	NA	< 0.0015	NA	NA	< 0.0015	NA	NA	NA
Tetrachloroethene	NA	< 0.0008	NA	NA	< 0.0008	NA	NA	NA
Toluene	NA	< 0.0008	NA	NA	< 0.0008	NA	NA	NA
Semivolatile Organic Compounds (ug/g)								
1-Phenylnaphthalene	NA	NA	NA	NA	NA	NA	NA	NA
2,6,10,14-Tetramethylpentadecane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
2-(1-Methylethyl) naphthalene	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	NA	< 0.0490	NA	NA	< 0.0490	NA	NA	NA
Acenaphthene	NA	< 0.0360	NA	NA	< 0.0360	NA	NA	NA
Bis (2-ethylhexyl) phthalate	NA	< 0.6200	NA	NA	< 0.6200	NA	NA	NA
Eicosane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
Fluorene	NA	< 0.0330	NA	NA	< 0.0330	NA	NA	NA
Heneicosane	NA	NA	NA	NA	NA	NA	NA	NA
Heptadecane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
Hexadecane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
Hexamethylcyclotrisiloxane (TIC)	NA	NA	NA	NA	0.7580**	NA	NA	NA
Mesityl oxide / 4-Methyl-3-penten-2-one	NA	NA	NA	NA	NA	NA	NA	NA
Napthalene	NA	< 0.0370	NA	NA	0.1510**	NA	NA	NA
Octadecane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
Pentacosane	NA	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	NA	< 0.0330	NA	NA	0.0871**	NA	NA	NA
Pyrene	NA	< 0.0330	NA	NA	0.1410**	NA	NA	NA
Tetradecane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
Tridecane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
n-Nitrosodiphenylamine	NA	< 0.1900	NA	NA	< 0.1900	NA	NA	NA
esticides (ug/g)	NA	ND	NA	NA	ND	NA	NA	NA
erbicides (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA

otes: ** = Analyte was detected at the conentration shown < = Not detected at the value shown, NA = Not analyzed

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TOOELE AD-NORTH AREA: SWMU NO. 1 - MAIN DEMOLITION AREA
SOIL ANALYTICAL RESULTS FOR ORGANIC COMPOUNDS

Sample ID	EP-01-053-DUP	EP-01-053	EP-01-054	EP-01-054-DUP	EP-01-054	EP-01-055	EP-01-055	EP-01-055-DUP
Lab ID	01L1*225	01L1*106	01L1*107	01L1*226	01L1*108	01L1*109	01L1*110	01L1*239
Date Sampled	06/16/92	06/16/92	06/16/92	06/16/92	06/16/92	06/17/92	06/17/92	06/17/92
Depth (ft)	3.500 ft	6.500 ft	2.000 ft	2.000 ft	4.500 ft	2.000 ft	5.000 ft	5.000 ft
Total Petroleum Hydrocarbons (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA
Explosives (ug/g)								
1,3,5-Trinitrobenzene	< 0.4880	< 0.4880	< 0.4880	< 0.4880	< 0.4880	< 0.4880	< 0.4880	< 0.4880
1,3-Dinitrobenzene	< 0.4960	< 0.4960	< 0.4960	< 0.4960	< 0.4960	< 0.4960	< 0.4960	< 0.4960
2,4,6-Trinitrotoluene	< 0.4560	< 0.4560	< 0.4560	< 0.4560	< 0.4560	< 0.4560	< 0.4560	< 0.4560
2,4-Dinitrotoluene	< 0.4240	< 0.1400	< 0.4240	< 0.4240	< 0.1400	< 0.4240	< 0.4240	< 0.4240
2,6-Dinitrotoluene	< 0.5240	< 0.0850	< 0.5240	< 0.5240	< 0.0850	< 0.5240	< 0.5240	< 0.5240
2-Nitrotoluene (TIC)	< 0.3070	< 0.3070	< 0.3070	< 0.3070	< 0.3070	< 0.3070	< 0.3070	< 0.3070
Cyclonite (RDX)	< 0.5870	< 0.5870	< 0.5870	< 0.5870	< 0.5870	< 0.5870	< 0.5870	< 0.5870
Cyclotetramethylenetetranitramine (HMX)	< 0.6660	< 0.6660	< 0.6660	< 0.6660	< 0.6660	< 0.6660	< 0.6660	< 0.6660
Nitramine (Tetryl)	< 0.7310	< 0.7310	< 0.7310	< 0.7310	< 0.7310	< 0.7310	< 0.7310	< 0.7310
Nitrobenzene	< 2.4100	< 0.0450	< 2.4100	< 2.4100	< 0.0450	< 2.4100	< 2.4100	< 2.4100
Dioxins/Furans (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA

Notes: ** = A[illegible] 'e was detected at the conentration shown < = Not detected at the v[illegible] shown, NA = Not analyzed

TOOELE AD-NORTH AREA: SW . 1 - MAIN DEMOLITION AREA
SOIL ANALYTICAL RESUL:s FOR ORGANIC COMPOUNDS

Sample ID	EP-01-056	EP-01-056-DUP	EP-01-056	EP-01-057	EP-01-057	EP-01-058	EP-01-058	EP-01-059
Lab ID	OIL1*111	OIL1*240	OIL1*112	OIL1*113	OIL1*114	OIL1*115	OIL1*116	OIL1*117
Date Sampled	06/17/92	06/17/92	06/17/92 *	06/17/92	06/17/92	06/18/92	06/18/92	06/18/92
Depth (ft)	2.000 ft	2.000 ft	4.500 ft	2.500 ft	5.000 ft	3.000 ft	5.000 ft	0.000 ft
Volatile Organic Compounds (ug/g)								
Acetone	NA	NA	NA	NA	NA	NA	NA	NA
Ethylbenzene	NA	NA	NA	NA	NA	NA	NA	NA
Methylene chloride	NA	NA	NA	NA	NA	NA	NA	NA
Trichlorofluoromethane	NA	NA	NA	NA	NA	NA	NA	NA
Xylenes	NA	NA	NA	NA	NA	NA	NA	NA
Tetrachloroethene	NA	NA	NA	NA	NA	NA	NA	NA
Toluene	NA	NA	NA	NA	NA	NA	NA	NA
Semivolatile Organic Compounds (ug/g)								
1-Phenylnaphthalene	NA	NA	NA	NA	NA	NA	NA	NA
2,6,10,14-Tetramethylpentadecane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
2-(1-Methylethyl) naphthalene	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthene	NA	NA	NA	NA	NA	NA	NA	NA
Bis (2-ethylhexyl) phthalate	NA	NA	NA	NA	NA	NA	NA	NA
Eicosane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
Fluorene	NA	NA	NA	NA	NA	NA	NA	NA
Heneicosane	NA	NA	NA	NA	NA	NA	NA	NA
Heptadecane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
Hexadecane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
Hexamethylcyclotrisiloxane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
Mesityl oxide / 4-Methyl-3-penten-2-one	NA	NA	NA	NA	NA	NA	NA	NA
Napthalene	NA	NA	NA	NA	NA	NA	NA	NA
Octadecane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
Pentacosane	NA	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	NA	NA	NA	NA	NA	NA	NA	NA
Pyrene	NA	NA	NA	NA	NA	NA	NA	NA
Tetradecane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
Tridecane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
n-Nitrosodiphenylamine	NA	NA	NA	NA	NA	NA	NA	NA
·sticides (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA
·rbicides (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA

·tes: ** = Analyte was detected at the conentration shown < = Not detected at the value shown, NA = Not analyzed

TOOELE AD-NORTH AREA: SWMU NO. 1 - MAIN DEMOLITION AREA
SOIL ANALYTICAL RESULTS FOR ORGANIC COMPOUNDS

Sample ID	EP-01-056	EP-01-056-DUP	EP-01-056	EP-01-057	EP-01-057	EP-01-058	EP-01-058	EP-01-059
Lab ID	OIL1*111	OIL1*240	OIL1*112	OIL1*113	OIL1*114	OIL1*115	OIL1*116	OIL1*117
Date Sampled	06/17/92	06/17/92	06/17/92	06/17/92	06/17/92	06/18/92	06/18/92	06/18/92
Depth (ft)	2.000 ft	2.000 ft	4.500 ft	2.500 ft	5.000 ft	3.000 ft	5.000 ft	0.000 ft
Total Petroleum Hydrocarbons (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA
Explosives (ug/g)								
1,3,5-Trinitrobenzene	< 0.4880	< 0.4880	< 0.4880	< 0.4880	< 0.4880	< 0.4880	< 0.4880	29.0000**
1,3-Dinitrobenzene	< 0.4960	< 0.4960	< 0.4960	< 0.4960	< 0.4960	< 0.4960	< 0.4960	0.6420**
2,4,6-Trinitrotoluene	< 0.4560	< 0.4560	< 0.4560	< 0.4560	< 0.4560	< 0.4560	< 0.4560	820.0000**
2,4-Dinitrotoluene	< 0.4240	< 0.4240	< 0.4240	< 0.4240	< 0.4240	< 0.4240	< 0.4240	3.5000**
2,6-Dinitrotoluene	< 0.5240	< 0.5240	< 0.5240	< 0.5240	< 0.5240	< 0.5240	< 0.5240	4.9600**
2-Nitrotoluene (TIC)	< 0.3070	< 0.3070	< 0.3070	< 0.3070	< 0.3070	< 0.3070	< 0.3070	< 0.3070
Cyclonite (RDX)	< 0.5870	< 0.5870	< 0.5870	1.1400**	< 0.5870	< 0.5870	< 0.5870	76.0000**
Cyclotetramethylenetetranitramine (HMX)	< 0.6660	< 0.6660	< 0.6660	< 0.6660	< 0.6660	< 0.6660	< 0.6660	22.7000**
Nitramine (Tetryl)	< 0.7310	< 0.7310	< 0.7310	< 0.7310	< 0.7310	< 0.7310	< 0.7310	< 0.7310
Nitrobenzene	< 2.4100	< 2.4100	< 2.4100	< 2.4100	< 2.4100	< 2.4100	< 2.4100	< 2.4100
Dioxins/Furans (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA

Notes: ** = [illegible]e was detected at the conentration shown < = Not detected at the [illegible] shown, NA = Not analyzed

TOOELE AD-NORTH AREA: SW . 1 - MAIN DEMOLITION AREA
SOIL ANALYTICAL RESULTS FOR ORGANIC COMPOUNDS

Sample ID	EP-01-059-DUP	EP-01-059	EP-01-060	EP-01-060	EP-01-061	EP-01-061-DUP	EP-01-061	EP-01-062
Lab ID	OIL1*241	OIL1*118	OIL1*119	OIL1*120	OIL1*121	OIL1*242	OIL1*122	OIL1*123
Date Sampled	06/18/92	06/18/92	06/18/92	06/18/92	06/18/92	06/18/92	06/18/92	06/23/92
Depth (ft)	0.000 ft	5.000 ft	2.500 ft	5.500 ft	4.500 ft	4.500 ft	7.000 ft	2.500 ft
Volatile Organic Compounds (ug/g)								
Acetone	NA	< 0.0170	NA	NA	NA	NA	NA	NA
Ethylbenzene	NA	< 0.0017	NA	NA	NA	NA	NA	NA
Methylene chloride	NA	< 0.0120	NA	NA	NA	NA	NA	NA
Trichlorofluoromethane	NA	< 0.0059	NA	NA	NA	NA	NA	NA
Xylenes	NA	< 0.0015	NA	NA	NA	NA	NA	NA
Tetrachloroethene	NA	< 0.0008	NA	NA	NA	NA	NA	NA
Toluene	NA	< 0.0008	NA	NA	NA	NA	NA	NA
Semivolatile Organic Compounds (ug/g)								
1-Phenylnaphthalene	NA	NA	NA	NA	NA	NA	NA	NA
2,6,10,14-Tetramethylpentadecane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
2-(1-Methylethyl) naphthalene	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	NA	< 0.0490	NA	NA	NA	NA	NA	NA
Acenaphthene	NA	< 0.0360	NA	NA	NA	NA	NA	NA
Bis (2-ethylhexyl) phthalate	NA	< 0.6200	NA	NA	NA	NA	NA	NA
Eicosane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
Fluorene	NA	< 0.0330	NA	NA	NA	NA	NA	NA
Heneicosane	NA	NA	NA	NA	NA	NA	NA	NA
Heptadecane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
Hexadecane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
Hexamethylcyclotrisiloxane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
Mesityl oxide / 4-Methyl-3-penten-2-one	NA	0.4400**	NA	NA	NA	NA	NA	NA
Napthalene	NA	< 0.0370	NA	NA	NA	NA	NA	NA
Octadecane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
Pentacosane	NA	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	NA	< 0.0330	NA	NA	NA	NA	NA	NA
Pyrene	NA	< 0.0330	NA	NA	NA	NA	NA	NA
Tetradecane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
Tridecane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
n-Nitrosodiphenylamine	NA	< 0.1900	NA	NA	NA	NA	NA	NA
esticides (ug/g)	NA	ND	NA	NA	NA	NA	NA	NA
erbicides (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA

otes: ** = Analyte was detected at the conentration shown < = Not detected at the value shown, NA = Not analyzed

TOOELE AD-NORTH AREA: SWMU NO. 1 - MAIN DEMOLITION AREA
SOIL ANALYTICAL RESULTS FOR ORGANIC COMPOUNDS

Sample ID	EP-01-059-DUP	EP-01-059	EP-01-060	EP-01-060	EP-01-061	EP-01-061-DUP	EP-0' J61	EP-01-062
Lab ID	OIL1*241	OIL1*118	OIL1*119	OIL1*120	OIL1*121	OIL1*242	OIL1*122	OIL1*123
Date Sampled	06/18/92	06/18/92	06/18/92	06/18/92	06/18/92	06/18/92	06/18/92	06/23/92
Depth (ft)	0.000 ft	5.000 ft	2.500 ft	5.500 ft	4.500 ft	4.500 ft	7.000 ft	2.500 ft
Total Petroleum Hydrocarbons (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA
Explosives (ug/g)								
1,3,5-Trinitrobenzene	57.0000**	< 0.4880	< 0.4880	< 0.4880	1.0500**	0.8120**	< 0.4880	< 0.4880
1,3-Dinitrobenzene	0.6010**	< 0.4960	< 0.4960	< 0.4960	< 0.4960	< 0.4960	< 0.4960	< 0.4960
2,4,6-Trinitrotoluene	490.0000**	< 0.4560	< 0.4560	< 0.4560	11.9000**	4.6300**	< 0.4560	< 0.4560
2,4-Dinitrotoluene	< 0.4240	< 0.1400	< 0.4240	< 0.4240	< 0.4240	< 0.4240	< 0.4240	< 0.4320
2,6-Dinitrotoluene	2.4800**	< 0.0850	< 0.5240	< 0.5240	< 0.5240	< 0.5240	< 0.5240	< 0.5240
2-Nitrotoluene (TIC)	< 0.3070	< 0.3070	< 0.3070	< 0.3070	< 0.3070	< 0.3070	< 0.3070	< 0.3070
Cyclonite (RDX)	180.0000**	< 0.5870	33.0000**	1.9500**	6.1700**	28.0000**	6.7800**	0.8840**
Cyclotetramethylenetetranitramine (HMX)	25.7000**	< 0.6660	3.0700**	< 0.6660	0.9720**	1.1800**	1.0800**	< 0.6660
Nitramine (Tetryl)	< 0.7310	< 0.7310	< 0.7310	< 0.7310	< 0.7310	0.8140**	< 0.7310	< 0.7310
Nitrobenzene	< 2.4100	< 0.0450	< 2.4100	< 2.4100	< 2.4100	< 2.4100	< 2.4100	< 2.4100
Dioxins/Furans (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA

Notes: ** = [illegible] was detected at the conentration shown < = Not detected at the v[illegible] hown, NA = Not analyzed

TOOELE AD-NORTH AREA: SW J. 1 - MAIN DEMOLITION AREA
SOIL ANALYTICAL RESULTS FOR ORGANIC COMPOUNDS

Sample ID	EP-01-062	EP-01-063	EP-01-063	EP-01-064	EP-01-064-DUP	EP-01-064	EP-01-065	EP-01-065
Lab ID	OIL1*124	OIL1*126	OIL1*125	OIL1*127	OIL1*243	OIL1*128	OIL1*129	OIL1*130
Date Sampled	06/23/92	06/23/92	06/23/92	06/23/92	06/23/92	06/23/92	06/23/92	06/23/92
Depth (ft)	6.000 ft	1.000 ft	5.000 ft	0.500 ft	0.500 ft	5.000 ft	0.000 ft	4.500 ft
Volatile Organic Compounds (ug/g)								
Acetone	NA	NA	< 0.0170	NA	NA	< 0.0170	NA	NA
Ethylbenzene	NA	NA	< 0.0017	NA	NA	< 0.0017	NA	NA
Methylene chloride	NA	NA	< 0.0120	NA	NA	< 0.0120	NA	NA
Trichlorofluoromethane	NA	NA	< 0.0059	NA	NA	< 0.0059	NA	NA
Xylenes	NA	NA	< 0.0015	NA	NA	< 0.0015	NA	NA
Tetrachloroethene	NA	NA	< 0.0008	NA	NA	< 0.0008	NA	NA
Toluene	NA	NA	< 0.0008	NA	NA	< 0.0008	NA	NA
Semivolatile Organic Compounds (ug/g)								
1-Phenylnaphthalene	NA	NA	NA	NA	NA	NA	NA	NA
2,6,10,14-Tetramethylpentadecane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
2-(1-Methylethyl) naphthalene	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	NA	NA	< 0.0490	NA	NA	< 0.0490	NA	NA
Acenaphthene	NA	NA	< 0.0360	NA	NA	< 0.0360	NA	NA
Bis (2-ethylhexyl) phthalate	NA	NA	< 0.6200	NA	NA	< 0.6200	NA	NA
Eicosane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
Fluorene	NA	NA	< 0.0330	NA	NA	< 0.0330	NA	NA
Heneicosane	NA	NA	NA	NA	NA	NA	NA	NA
Heptadecane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
Hexadecane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
Hexamethylcyclotrisiloxane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
Mesityl oxide / 4-Methyl-3-penten-2-one	NA	NA	NA	NA	NA	NA	NA	NA
Napthalene	NA	NA	< 0.0370	NA	NA	< 0.0370	NA	NA
Octadecane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
Pentacosane	NA	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	NA	NA	< 0.0330	NA	NA	< 0.0330	NA	NA
Pyrene	NA	NA	< 0.0330	NA	NA	< 0.0330	NA	NA
Tetradecane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
Tridecane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
n-Nitrosodiphenylamine	NA	NA	< 0.1900	NA	NA	< 0.1900	NA	NA
esticides (ug/g)	NA	NA	ND	NA	NA	ND	NA	NA
erbicides (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA

otes: ** = Analyte was detected at the conentration shown < = Not detected at the value shown, NA = Not analyzed

TOOELE AD-NORTH AREA: SWMU NO. 1 - MAIN DEMOLITION AREA
SOIL ANALYTICAL RESULTS FOR ORGANIC COMPOUNDS

Sample ID	EP-01-062	EP-01-063	EP-01-063	EP-01-064	EP-01-064-DUP	EP-01-064	EP-01-065	EP-01-065
Lab ID	OIL1*124	OIL1*126	OIL1*125	OIL1*127	OIL1*243	OIL1*128	OIL1*129	OIL1*130
Date Sampled	06/23/92	06/23/92	06/23/92	06/23/92	06/23/92	06/23/92	06/23/92	06/23/92
Depth (ft)	6.000 ft	1.000 ft	5.000 ft	0.500 ft	0.500 ft	5.000 ft	0.000 ft	4.500 ft
Total Petroleum Hydrocarbons (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA
Explosives (ug/g)								
1,3,5-Trinitrobenzene	< 0.4880	< 0.4880	< 0.4880	20.5000**	18.4000**	< 0.4880	< 0.4880	< 0.4880
1,3-Dinitrobenzene	< 0.4960	< 0.4960	< 0.4960	< 0.4960	< 0.4960	< 0.4960	< 0.4960	< 0.4960
2,4,6-Trinitrotoluene	< 0.4560	< 0.4560	< 0.4560	280.0000**	230.0000**	0.6180**	0.7350**	< 0.4560
2,4-Dinitrotoluene	< 0.4320	< 0.4320	< 0.1400	< 0.4320	< 0.4320	< 0.1400	< 0.4320	< 0.4320
2,6-Dinitrotoluene	< 0.5240	< 0.5240	< 0.0850	< 0.5240	< 0.5240	< 0.0850	< 0.5240	< 0.5240
2-Nitrotoluene (TIC)	< 0.3070	< 0.3070	< 0.3070	< 0.3070	< 0.3070	< 0.3070	< 0.3070	< 0.3070
Cyclonite (RDX)	3.3800**	< 0.5870	< 0.5870	2.7500**	< 0.5870	< 0.5870	< 0.5870	< 0.5870
Cyclotetramethylenetetranitramine (HMX)	< 0.6660	< 0.6660	< 0.6660	< 0.6660	< 0.6660	< 0.6660	< 0.6660	< 0.6660
Nitramine (Tetryl)	< 0.7310	< 0.7310	< 0.7310	< 0.7310	< 0.7310	< 0.7310	< 0.7310	< 0.7310
Nitrobenzene	< 2.4100	< 2.4100	< 0.0450	8.3400**	8.2900**	< 0.0450	< 2.4100	< 2.4100
Dioxins/Furans (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA

Notes: ** = ... was detected at the conentration shown < = Not detected at the ... shown, NA = Not analyzed

TOOELE AD-NORTH AREA: SW. .J. 1 - MAIN DEMOLITION AREA
SOIL ANALYTICAL RESULTS FOR ORGANIC COMPOUNDS

Sample ID	EP-01-066	EP-01-066	EP-01-067	EP-01-067	EP-01-068	EP-01-068	EP-01-068-DUP	EP-01-069
Lab ID	OIL1*131	OIL1*132	OIL1*133	OIL1*134	OIL1*135	OIL1*136	OIL1*248	OIL1*137
Date Sampled	06/24/92	06/24/92	06/24/92	06/24/92	06/24/92	06/24/92	06/24/92	06/24/92
Depth (ft)	3.000 ft	5.000 ft	0.000 ft	4.500 ft	3.000 ft	5.000 ft	5.000 ft	3.500 ft
Volatile Organic Compounds (ug/g)								
Acetone	NA	NA	NA	NA	NA	NA	NA	NA
Ethylbenzene	NA	NA	NA	NA	NA	NA	NA	NA
Methylene chloride	NA	NA	NA	NA	NA	NA	NA	NA
Trichlorofluoromethane	NA	NA	NA	NA	NA	NA	NA	NA
Xylenes	NA	NA	NA	NA	NA	NA	NA	NA
Tetrachloroethene	NA	NA	NA	NA	NA	NA	NA	NA
Toluene	NA	NA	NA	NA	NA	NA	NA	NA
Semivolatile Organic Compounds (ug/g)								
1-Phenylnaphthalene	NA	NA	NA	NA	NA	NA	NA	NA
2,6,10,14-Tetramethylpentadecane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
2-(1-Methylethyl) naphthalene	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthene	NA	NA	NA	NA	NA	NA	NA	NA
Bis (2-ethylhexyl) phthalate	NA	NA	NA	NA	NA	NA	NA	NA
Eicosane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
Fluorene	NA	NA	NA	NA	NA	NA	NA	NA
Heneicosane	NA	NA	NA	NA	NA	NA	NA	NA
Heptadecane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
Hexadecane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
Hexamethylcyclotrisiloxane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
Mesityl oxide / 4-Methyl-3-penten-2-one	NA	NA	NA	NA	NA	NA	NA	NA
Napthalene	NA	NA	NA	NA	NA	NA	NA	NA
Octadecane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
Pentacosane	NA	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	NA	NA	NA	NA	NA	NA	NA	NA
Pyrene	NA	NA	NA	NA	NA	NA	NA	NA
Tetradecane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
Tridecane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
n-Nitrosodiphenylamine	NA	NA	NA	NA	NA	NA	NA	NA
'esticides (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA
lerbicides (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA

'otes: ** = Analyte was detected at the conentration shown < = Not detected at the value shown, NA = Not analyzed

TOOELE AD-NORTH AREA: SWMU NO. 1 - MAIN DEMOLITION AREA
SOIL ANALYTICAL RESULTS FOR ORGANIC COMPOUNDS

Sample ID	EP-01-066	EP-01-066	EP-01-067	EP-01-067	EP-01-068	EP-01-068	EP-01-068-DUP	EP-01-069
Lab ID	OIL1*131	OIL1*132	OIL1*133	OIL1*134	OIL1*135	OIL1*136	OIL1*248	OIL1*137
Date Sampled	06/24/92	06/24/92	06/24/92	06/24/92	06/24/92	06/24/92	06/24/92	06/24/92
Depth (ft)	3.000 ft	5.000 ft	0.000 ft	4.500 ft	3.000 ft	5.000 ft	5.000 ft	3.500 ft
Total Petroleum Hydrocarbons (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA
Explosives (ug/g)								
1,3,5-Trinitrobenzene	< 0.4880	< 0.4880	< 0.4880	< 0.4880	< 0.4880	< 0.4880	< 0.4880	< 0.4880
1,3-Dinitrobenzene	< 0.4960	< 0.4960	< 0.4960	< 0.4960	< 0.4960	< 0.4960	< 0.4960	< 0.4960
2,4,6-Trinitrotoluene	< 0.4560	< 0.4560	< 0.4560	< 0.4560	12.6000**	< 0.4560	< 0.4560	0.5320**
2,4-Dinitrotoluene	< 0.4320	< 0.4320	< 0.4320	< 0.4320	< 0.4320	< 0.4320	< 0.4240	< 0.4320
2,6-Dinitrotoluene	< 0.5240	< 0.5240	< 0.5240	< 0.5240	< 0.5240	< 0.5240	< 0.5240	< 0.5240
2-Nitrotoluene (TIC)	< 0.3070	< 0.3070	< 0.3070	< 0.3070	< 0.3070	< 0.3070	< 0.3070	< 0.3070
Cyclonite (RDX)	< 0.5870	< 0.5870	< 0.5870	< 0.5870	28.0000**	< 0.5870	< 0.5870	< 0.5870
Cyclotetramethylenetetranitramine (HMX)	< 0.6660	< 0.6660	< 0.6660	< 0.6660	3.7000**	< 0.6660	< 0.6660	< 0.6660
Nitramine (Tetryl)	< 0.7310	< 0.7310	< 0.7310	< 0.7310	< 0.7310	< 0.7310	< 0.7310	< 0.7310
Nitrobenzene	< 2.4100	< 2.4100	< 2.4100	< 2.4100	< 2.4100	< 2.4100	< 2.4100	< 2.4100
Dioxins/Furans (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA

Notes: ** ... was detected at the conentration shown < = Not detected at the ... shown, NA = Not analyzed

TOOELE AD-NORTH AREA: SW. .O. 1 - MAIN DEMOLITION AREA
SOIL ANALYTICAL RESULTS FOR ORGANIC COMPOUNDS

Sample ID	EP-01-069	EP-01-069-DUP	EP-01-069-DUP	EP-01-070	EP-01-070-DUP	EP-01-070	EP-01-071	EP-01-071-DUP
Lab ID	OIL1*138	OIL1*235	OIL1*249	OIL1*139	OIL1*250	OIL1*140	OIL1*141	OIL1*251
Date Sampled	06/24/92	06/24/92	06/24/92	06/25/92	06/25/92	06/25/92	06/25/92	06/25/92
Depth (ft)	5.500 ft	5.500 ft	5.500 ft	3.000 ft	3.000 ft	5.000 ft	2.500 ft	2.500 ft
Volatile Organic Compounds (ug/g)								
Acetone	NA	< 0.0170	NA	NA	NA	NA	NA	NA
Ethylbenzene	NA	< 0.0017	NA	NA	NA	NA	NA	NA
Methylene chloride	NA	< 0.0120	NA	NA	NA	NA	NA	NA
Trichlorofluoromethane	NA	< 0.0059	NA	NA	NA	NA	NA	NA
Xylenes	NA	< 0.0015	NA	NA	NA	NA	NA	NA
Tetrachloroethene	NA	< 0.0008	NA	NA	NA	NA	NA	NA
Toluene	NA	< 0.0008	NA	NA	NA	NA	NA	NA
Semivolatile Organic Compounds (ug/g)								
1-Phenylnaphthalene	NA	NA	NA	NA	NA	NA	NA	NA
2,6,10,14-Tetramethylpentadecane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
2-(1-Methylethyl) naphthalene	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	NA	NA	NA	NA	NA	NA	NA	< 0.0490
Acenaphthene	NA	NA	NA	NA	NA	NA	NA	< 0.0360
Bis (2-ethylhexyl) phthalate	NA	NA	NA	NA	NA	NA	NA	< 0.6200
Eicosane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
Fluorene	NA	NA	NA	NA	NA	NA	NA	< 0.0330
Heneicosane	NA	NA	NA	NA	NA	NA	NA	NA
Heptadecane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
Hexadecane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
Hexamethylcyclotrisiloxane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
Mesityl oxide / 4-Methyl-3-penten-2-one	NA	NA	NA	NA	NA	NA	NA	NA
Napthalene	NA	NA	NA	NA	NA	NA	NA	< 0.0370
Octadecane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
Pentacosane	NA	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	NA	NA	NA	NA	NA	NA	NA	< 0.0330
Pyrene	NA	NA	NA	NA	NA	NA	NA	0.1100**
Tetradecane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
Tridecane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
n-Nitrosodiphenylamine	NA	NA	NA	NA	NA	NA	NA	< 0.1900
Pesticides (ug/g)	NA	NA	NA	NA	NA	NA	NA	ND
Herbicides (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA

Notes: ** = Analyte was detected at the conentration shown < = Not detected at the value shown, NA = Not analyzed

TOOELE AD-NORTH AREA: SWMU NO. 1 - MAIN DEMOLITION AREA
SOIL ANALYTICAL RESULTS FOR ORGANIC COMPOUNDS

Sample ID	EP-01-069	EP-01-069-DUP	EP-01-069-DUP	EP-01-070	EP-01-070-DUP	EP-01-070	EP-01-071	EP-01-071-DUP
Lab ID	OIL1*138	OIL1*235	OIL1*249	OIL1*139	OIL1*250	OIL1*140	OIL1*141	OIL1*251
Date Sampled	06/24/92	06/24/92	06/24/92	06/25/92	06/25/92	06/25/92	06/25/92	06/25/92
Depth (ft)	5.500 ft	5.500 ft	5.500 ft	3.000 ft	3.000 ft	5.000 ft	2.500 ft	2.500 ft
Total Petroleum Hydrocarbons (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA
Explosives (ug/g)								
1,3,5-Trinitrobenzene	< 0.4880	NA	< 0.4880	< 0.4880	< 0.4880	< 0.4880	< 0.4880	NA
1,3-Dinitrobenzene	< 0.4960	NA	< 0.4960	< 0.4960	< 0.4960	< 0.4960	< 0.4960	NA
2,4,6-Trinitrotoluene	< 0.4560	NA	< 0.4560	< 0.4560	< 0.4560	< 0.4560	2.0300**	NA
2,4-Dinitrotoluene	< 0.4320	NA	< 0.4240	< 0.4240	< 0.4240	< 0.4240	< 0.4240	< 0.1400
2,6-Dinitrotoluene	< 0.5240	NA	< 0.5240	< 0.5240	< 0.5240	< 0.5240	< 0.5240	< 0.0850
2-Nitrotoluene (TIC)	< 0.3070	NA	< 0.3070	< 0.3070	< 0.3070	< 0.3070	< 0.3070	NA
Cyclonite (RDX)	< 0.5870	NA	< 0.5870	< 0.5870	< 0.5870	< 0.5870	< 0.5870	NA
Cyclotetramethylenetetranitramine (HMX)	< 0.6660	NA	< 0.6660	< 0.6660	< 0.6660	< 0.6660	< 0.6660	NA
Nitramine (Tetryl)	< 0.7310	NA	< 0.7310	< 0.7310	< 0.7310	< 0.7310	< 0.7310	NA
Nitrobenzene	< 2.4100	NA	< 2.4100	< 2.4100	< 2.4100	< 2.4100	< 2.4100	< 0.0450
Dioxins/Furans (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA

Notes: ** = A e was detected at the conentration shown < = Not detected at the v hown, NA = Not analyzed

TOOELE AD-NORTH AREA: SW J. 1 - MAIN DEMOLITION AREA
SOIL ANALYTICAL RESULTS FOR ORGANIC COMPOUNDS

Sample ID	EP-01-071	EP-01-072	EP-01-072	EP-01-073	EP-01-073	EP-01-074	EP-01-074	EP-01-075
Lab ID	OIL1*142	OIL1*143	OIL1*144	OIL1*145	OIL1*146	OIL1*147	OIL1*148	OIL1*149
Date Sampled	06/25/92	06/26/92	06/26/92	06/26/92	06/26/92	06/26/92	06/26/92	06/26/92
Depth (ft)	5.500 ft	0.000 ft	4.500 ft	0.000 ft	5.500 ft	2.500 ft	9.500 ft	0.500 ft
Volatile Organic Compounds (ug/g)								
Acetone	NA	NA	NA	NA	NA	< 0.0170	NA	NA
Ethylbenzene	NA	NA	NA	NA	NA	< 0.0017	NA	NA
Methylene chloride	NA	NA	NA	NA	NA	< 0.0120	NA	NA
Trichlorofluoromethane	NA	NA	NA	NA	NA	< 0.0059	NA	NA
Xylenes	NA	NA	NA	NA	NA	< 0.0015	NA	NA
Tetrachloroethene	NA	NA	NA	NA	NA	< 0.0008	NA	NA
Toluene	NA	NA	NA	NA	NA	< 0.0008	NA	NA
Semivolatile Organic Compounds (ug/g)								
1-Phenylnaphthalene	NA	NA	NA	NA	NA	NA	NA	NA
2,6,10,14-Tetramethylpentadecane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
2-(1-Methylethyl) naphthalene	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	NA	NA	NA	NA	NA	< 0.0490	NA	NA
Acenaphthene	NA	NA	NA	NA	NA	< 0.0360	NA	NA
Bis (2-ethylhexyl) phthalate	NA	NA	NA	NA	NA	1.2400**	NA	NA
Eicosane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
Fluorene	NA	NA	NA	NA	NA	< 0.0330	NA	NA
Heneicosane	NA	NA	NA	NA	NA	NA	NA	NA
Heptadecane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
Hexadecane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
Hexamethylcyclotrisiloxane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
Mesityl oxide / 4-Methyl-3-penten-2-one	NA	NA	NA	NA	NA	NA	NA	NA
Napthalene	NA	NA	NA	NA	NA	< 0.0370	NA	NA
Octadecane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
Pentacosane	NA	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	NA	NA	NA	NA	NA	< 0.0330	NA	NA
Pyrene	NA	NA	NA	NA	NA	< 0.0330	NA	NA
Tetradecane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
Tridecane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
n-Nitrosodiphenylamine	NA	NA	NA	NA	NA	< 0.1900	NA	NA
esticides (ug/g)	NA	NA	NA	NA	NA	ND	NA	NA
erbicides (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA

otes: ** = Analyte was detected at the conentration shown < = Not detected at the value shown, NA = Not analyzed

TOOELE AD-NORTH AREA: SWMU NO. 1 - MAIN DEMOLITION AREA
SOIL ANALYTICAL RESULTS FOR ORGANIC COMPOUNDS

Sample ID	EP-01-071	EP-01-072	EP-01-072	EP-01-073	EP-01-073	EP-01-074	EP-01-074	EP-01-075
Lab ID	OIL1*142	OIL1*143	OIL1*144	OIL1*145	OIL1*146	OIL1*147	OIL1*148	OIL1*149
Date Sampled	06/25/92	06/26/92	06/26/92	06/26/92	06/26/92	06/26/92	06/26/92	06/26/92
Depth (ft)	5.500 ft	0.000 ft	4.500 ft	0.000 ft	5.500 ft	2.500 ft	9.500 ft	0.500 ft
Total Petroleum Hydrocarbons (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA
Explosives (ug/g)								
1,3,5-Trinitrobenzene	< 0.4880	< 0.4880	< 0.4880	< 0.4880	< 0.4880	< 0.4880	< 0.4880	110.0000**
1,3-Dinitrobenzene	< 0.4960	< 0.4960	< 0.4960	< 0.4960	< 0.4960	< 0.4960	< 0.4960	1.5800**
2,4,6-Trinitrotoluene	0.4730**	< 0.4560	< 0.4560	< 0.4560	< 0.4560	< 0.4560	< 0.4560	6400.0000**
2,4-Dinitrotoluene	< 0.4240	< 0.4240	< 0.4240	< 0.4240	< 0.4240	< 0.1400	< 0.4240	< 0.4240
2,6-Dinitrotoluene	< 0.5240	< 0.5240	< 0.5240	< 0.5240	< 0.5240	< 0.0850	< 0.5240	< 0.5240
2-Nitrotoluene (TIC)	< 0.3070	< 0.3070	< 0.3070	< 0.3070	< 0.3070	< 0.3070	< 0.3070	< 0.3070
Cyclonite (RDX)	< 0.5870	3.1600**	< 0.5870	< 0.5870	< 0.5870	< 0.5870	< 0.5870	810.0000**
Cyclotetramethylenetetranitramine (HMX)	< 0.6660	< 0.6660	< 0.6660	< 0.6660	< 0.6660	< 0.6660	< 0.6660	190.0000**
Nitramine (Tetryl)	< 0.7310	< 0.7310	< 0.7310	< 0.7310	< 0.7310	< 0.7310	< 0.7310	< 0.7310
Nitrobenzene	< 2.4100	< 2.4100	< 2.4100	< 2.4100	< 2.4100	< 0.0450	< 2.4100	78.0000**
Dioxins/Furans (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA

Notes: ** = [illegible] was detected at the conentration shown < = Not detected at the v[illegible]hown, NA = Not analyzed

TOOELE AD-NORTH AREA: SW ;. 1 - MAIN DEMOLITION AREA
SOIL ANALYTICAL RESULTS FOR ORGANIC COMPOUNDS

Sample ID	EP-01-075	EP-01-076	EP-01-076	EP-01-077	EP-01-077	EP-01-078	EP-01-078	EP-01-079
Lab ID	OIL1*150	OIL1*151	OIL1*152	OIL1*153	OIL1*154	OIL1*155	OIL1*156	OIL1*157
Date Sampled	06/26/92	06/28/92	06/28/92	06/29/92	06/29/92	06/29/92	06/29/92	06/29/92
Depth (ft)	5.000 ft	0.000 ft	5.500 ft	0.000 ft	4.500 ft	0.000 ft	5.000 ft	0.000 ft
Volatile Organic Compounds (ug/g)								
Acetone	NA	NA	NA	NA	NA	NA	NA	NA
Ethylbenzene	NA	NA	NA	NA	NA	NA	NA	NA
Methylene chloride	NA	NA	NA	NA	NA	NA	NA	NA
Trichlorofluoromethane	NA	NA	NA	NA	NA	NA	NA	NA
Xylenes	NA	NA	NA	NA	NA	NA	NA	NA
Tetrachloroethene	NA	NA	NA	NA	NA	NA	NA	NA
Toluene	NA	NA	NA	NA	NA	NA	NA	NA
Semivolatile Organic Compounds (ug/g)								
1-Phenylnaphthalene	NA	NA	NA	NA	NA	NA	NA	NA
2,6,10,14-Tetramethylpentadecane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
2-(1-Methylethyl) naphthalene	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthene	NA	NA	NA	NA	NA	NA	NA	NA
Bis (2-ethylhexyl) phthalate	NA	NA	NA	NA	NA	NA	NA	NA
Eicosane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
Fluorene	NA	NA	NA	NA	NA	NA	NA	NA
Heneicosane	NA	NA	NA	NA	NA	NA	NA	NA
Heptadecane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
Hexadecane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
Hexamethylcyclotrisiloxane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
Mesityl oxide / 4-Methyl-3-penten-2-one	NA	NA	NA	NA	NA	NA	NA	NA
Napthalene	NA	NA	NA	NA	NA	NA	NA	NA
Octadecane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
Pentacosane	NA	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	NA	NA	NA	NA	NA	NA	NA	NA
Pyrene	NA	NA	NA	NA	NA	NA	NA	NA
Tetradecane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
Tridecane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
n-Nitrosodiphenylamine	NA	NA	NA	NA	NA	NA	NA	NA
'esticides (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA
Herbicides (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA

otes: ** = Analyte was detected at the conentration shown < = Not detected at the value shown, NA = Not analyzed

TOOELE AD-NORTH AREA: SWMU NO. 1 - MAIN DEMOLITION AREA
SOIL ANALYTICAL RESULTS FOR ORGANIC COMPOUNDS

Sample ID	EP-01-075	EP-01-076	EP-01-076	EP-01-077	EP-01-077	EP-01-078	EP-01-078	EP-01-079
Lab ID	OIL1*150	OIL1*151	OIL1*152	OIL1*153	OIL1*154	OIL1*155	OIL1*156	OIL1*157
Date Sampled	06/26/92	06/28/92	06/28/92	06/29/92	06/29/92	06/29/92	06/29/92	06/29/92
Depth (ft)	5.000 ft	0.000 ft	5.500 ft	0.000 ft	4.500 ft	0.000 ft	5.000 ft	0.000 ft
Total Petroleum Hydrocarbons (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA
Explosives (ug/g)								
1,3,5-Trinitrobenzene	< 0.4880	< 0.4880	< 0.4880	< 0.4880	< 0.4880	< 0.4880	< 0.4880	< 0.4880
1,3-Dinitrobenzene	< 0.4960	< 0.4960	< 0.4960	< 0.4960	< 0.4960	< 0.4960	< 0.4960	< 0.4960
2,4,6-Trinitrotoluene	0.6370**	< 0.4560	< 0.4560	< 0.4560	< 0.4560	< 0.4560	< 0.4560	< 0.4560
2,4-Dinitrotoluene	< 0.4240	< 0.4240	< 0.4240	< 0.4240	< 0.4240	< 0.4240	< 0.4240	< 0.4240
2,6-Dinitrotoluene	< 0.5240	< 0.5240	< 0.5240	< 0.5240	< 0.5240	< 0.5240	< 0.5240	< 0.5240
2-Nitrotoluene (TIC)	< 0.3070	< 0.3070	< 0.3070	< 0.3070	< 0.3070	< 0.3070	< 0.3070	< 0.3070
Cyclonite (RDX)	< 0.5870	< 0.5870	< 0.5870	< 0.5870	< 0.5870	< 0.5870	< 0.5870	< 0.5870
Cyclotetramethylenetetranitramine (HMX)	< 0.6660	< 0.6660	< 0.6660	< 0.6660	< 0.6660	< 0.6660	< 0.6660	< 0.6660
Nitramine (Tetryl)	< 0.7310	< 0.7310	< 0.7310	< 0.7310	< 0.7310	< 0.7310	< 0.7310	< 0.7310
Nitrobenzene	< 2.4100	< 2.4100	< 2.4100	< 2.4100	< 2.4100	< 2.4100	< 2.4100	< 2.4100
Dioxins/Furans (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA

Notes: ** = A was detected at the conentration shown < = Not detected at the ve hown, NA = Not analyzed

TOOELE AD-NORTH AREA: SW . 1 - MAIN DEMOLITION AREA
SOIL ANALYTICAL RESULTS FOR ORGANIC COMPOUNDS

Sample ID	EP-01-079	EP-01-080	EP-01-080	EP-01-080-DUP	EP-01-081	EP-01-081	EP-01-082	EP-01-082
Lab ID	OIL1*158	OIL1*159	OIL1*160	OIL1*246	OIL1*161	OIL1*162	OIL1*163	OIL1*164
Date Sampled	06/29/92	06/29/92	06/29/92	06/29/92	06/30/92	06/30/92	06/30/92	06/30/92
Depth (ft)	5.500 ft	0.000 ft	6.000 ft	6.000 ft	0.000 ft	5.500 ft	1.000 ft	5.000 ft
Volatile Organic Compounds (ug/g)								
Acetone	NA	NA	NA	< 0.0170	NA	NA	NA	NA
Ethylbenzene	NA	NA	NA	< 0.0017	NA	NA	NA	NA
Methylene chloride	NA	NA	NA	< 0.0120	NA	NA	NA	NA
Trichlorofluoromethane	NA	NA	NA	< 0.0059	NA	NA	NA	NA
Xylenes	NA	NA	NA	< 0.0015	NA	NA	NA	NA
Tetrachloroethene	NA	NA	NA	< 0.0008	NA	NA	NA	NA
Toluene	NA	NA	NA	< 0.0008	NA	NA	NA	NA
Semivolatile Organic Compounds (ug/g)								
1-Phenylnaphthalene	NA	NA	NA	NA	NA	NA	NA	NA
2,6,10,14-Tetramethylpentadecane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
2-(1-Methylethyl) naphthalene	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	NA	NA	< 0.0490	NA	NA	NA	NA	< 0.0490
Acenaphthene	NA	NA	< 0.0360	NA	NA	NA	NA	< 0.0360
Bis (2-ethylhexyl) phthalate	NA	NA	2.9100**	NA	NA	NA	NA	< 0.6200
Eicosane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
Fluorene	NA	NA	< 0.0330	NA	NA	NA	NA	< 0.0330
Heneicosane	NA	NA	NA	NA	NA	NA	NA	NA
Heptadecane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
Hexadecane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
Hexamethylcyclotrisiloxane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
Mesityl oxide / 4-Methyl-3-penten-2-one	NA	NA	NA	NA	NA	NA	NA	NA
Napthalene	NA	NA	< 0.0370	NA	NA	NA	NA	< 0.0370
Octadecane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
Pentacosane	NA	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	NA	NA	< 0.0330	NA	NA	NA	NA	< 0.0330
Pyrene	NA	NA	< 0.0330	NA	NA	NA	NA	< 0.0330
Tetradecane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
Tridecane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
n-Nitrosodiphenylamine	NA	NA	< 0.1900	NA	NA	NA	NA	< 0.1900
esticides (ug/g)	NA	NA	ND	NA	NA	NA	NA	ND
erbicides (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA

otes: ** = Analyte was detected at the conentration shown < = Not detected at the value shown, NA = Not analyzed

TOOELE AD-NORTH AREA: SWMU NO. 1 - MAIN DEMOLITION AREA
SOIL ANALYTICAL RESULTS FOR ORGANIC COMPOUNDS

Sample ID	EP-01-079	EP-01-080	EP-01-080	EP-01-080-DUP	EP-01-081	EP-01-081	EP-01-082	EP-01-082
Lab ID	OIL1*158	OIL1*159	OIL1*160	OIL1*246	OIL1*161	OIL1*162	OIL1*163	OIL1*164
Date Sampled	06/29/92	06/29/92	06/29/92	06/29/92	06/30/92	06/30/92	06/30/92	06/30/92
Depth (ft)	5.500 ft	0.000 ft	6.000 ft	6.000 ft	0.000 ft	5.500 ft	1.000 ft	5.000 ft
Total Petroleum Hydrocarbons (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA
Explosives (ug/g)								
1,3,5-Trinitrobenzene	< 0.4880	< 0.4880	< 0.4880	NA	< 0.4880	< 0.4880	47.0000**	< 0.4880
1,3-Dinitrobenzene	< 0.4960	< 0.49[illegible]	< 0.4960	NA	< 0.4960	< 0.4960	910.0000**	< 0.4960
2,4,6-Trinitrotoluene	< 0.4560	< 0.4560	< 0.4560	NA	< 0.4560	< 0.4560	1100.0000**	< 0.4560
2,4-Dinitrotoluene	< 0.4240	< 0.4240	< 0.1400	NA	< 0.4240	< 0.4240	2.5800**	< 0.1400
2,6-Dinitrotoluene	< 0.5240	< 0.5240	< 0.0850	NA	< 0.5240	< 0.5240	< 0.5240	< 0.0850
2-Nitrotoluene (TIC)	< 0.3070	< 0.3070	< 0.3070	NA	< 0.3070	< 0.3070	0.4490**	< 0.3070
Cyclonite (RDX)	< 0.5870	< 0.5870	< 0.5870	NA	< 0.5870	< 0.5870	2000.0000**	2.2800**
Cyclotetramethylenetetranitramine (HMX)	< 0.6660	< 0.6660	< 0.6660	NA	< 0.6660	< 0.6660	100.0000**	< 0.6660
Nitramine (Tetryl)	< 0.7310	< 0.7310	< 0.7310	NA	< 0.7310	< 0.7310	< 0.7310	< 0.7310
Nitrobenzene	< 2.4100	< 2.4100	< 0.0450	NA	< 2.4100	< 2.4100	9.6200**	< 0.0450
Dioxins/Furans (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA

Notes: ** = A[illegible] was detected at the conentration shown < = Not detected at the v[illegible]iown, NA = Not analyzed

TOOELE AD-NORTH AREA: SW. J. 1 - MAIN DEMOLITION AREA
SOIL ANALYTICAL RESULTS FOR ORGANIC COMPOUNDS

Sample ID	EP-01-082-DUP
Lab ID	OIL1*247
Date Sampled	06/30/92
Depth (ft)	5.000 ft
Volatile Organic Compounds (ug/g)	
Acetone	< 0.0170
Ethylbenzene	< 0.0017
Methylene chloride	< 0.0120
Trichlorofluoromethane	< 0.0059
Xylenes	< 0.0015
Tetrachloroethene	< 0.0008
Toluene	< 0.0008
Semivolatile Organic Compounds (ug/g)	
1-Phenylnaphthalene	NA
2,6,10,14-Tetramethylpentadecane (TIC)	NA
2-(1-Methylethyl) naphthalene	NA
2-Methylnaphthalene	NA
Acenaphthene	NA
Bis (2-ethylhexyl) phthalate	NA
Eicosane (TIC)	NA
Fluorene	NA
Heneicosane	NA
Heptadecane (TIC)	NA
Hexadecane (TIC)	NA
Hexamethylcyclotrisiloxane (TIC)	NA
Mesityl oxide / 4-Methyl-3-penten-2-one	NA
Napthalene	NA
Octadecane (TIC)	NA
Pentacosane	NA
Phenanthrene	NA
Pyrene	NA
Tetradecane (TIC)	NA
Tridecane (TIC)	NA
n-Nitrosodiphenylamine	NA
esticides (ug/g)	NA
erbicides (ug/g)	NA

otes: ** = Analyte was detected at the conentration shown < = Not detected at the value shown, NA = Not analyzed

TOOELE AD-NORTH AREA: SWMU NO. 1 - MAIN DEMOLITION AREA
SOIL ANALYTICAL RESULTS FOR ORGANIC COMPOUNDS

Sample ID	EP-01-082-DUP
Lab ID	OIL1*247
Date Sampled	06/30/92
Depth (ft)	5.000 ft
Total Petroleum Hydrocarbons (ug/g)	NA
Explosives (ug/g)	
1,3,5-Trinitrobenzene	NA
1,3-Dinitrobenzene	NA
2,4,6-Trinitrotoluene	NA
2,4-Dinitrotoluene	NA
2,6-Dinitrotoluene	NA
2-Nitrotoluene (TIC)	NA
Cyclonite (RDX)	NA
Cyclotetramethylenetetranitramine (HMX)	NA
Nitramine (Tetryl)	NA
Nitrobenzene	NA
Dioxins/Furans (ug/g)	NA

Notes: ** = / e was detected at the conentration shown < = Not detected at the v shown, NA = Not analyzed

TOOELE AD-NORTH AREA: SWMU . 1 - MAIN DEMOLITION AREA
SOIL ANALYTICAL RESULTS FOR GENERAL CHEMICALS

Sample ID	SB-01-001	SB-01-001	SB-01-001	SB-01-001	SB-01-001	SB-01-001	SB-01-001	SB-01-002
Lab ID	OIL1*259	OIL1*260	OIL1*261	OIL1*262	OIL1*263	OIL1*264	OIL1*265	OIL1*266
Date Sampled	07/23/92	07/23/92	07/23/92	07/23/92	07/24/92	07/24/92	07/24/92	07/27/92
Depth (ft)	5.000 ft	10.000 ft	20.000 ft	30.000 ft	40.000 ft	75.000 ft	80.000 ft	5.000 ft
Anions (ug/g)								
Chloride	620.0000**	540.0000	3700.0000**	1200.0000	1040.0000	249.0000	60.1000	< 6.0500
Nitrite, nitrate - nonspecified	0.6560	3.9200	5.9300	2.7500	3.6000	4.6200	1.3700	< 0.6000
Sulfate	1700.0000**	2200.0000**	12000.0000**	115.0000	< 90.4000	261.0000	< 90.4000	< 90.4000
Total phosphates	1900.0000**	260.0000	1900.0000**	860.0000**	810.0000**	2200.0000**	1200.0000**	100.0000
General Inorganic Parameters								
pH	8.0600	8.6400	7.6000	8.2400	8.1000	8.0400	8.4800	5.8700

Notes: ** = Value is above the background concentration for the depth shown, < = Not detected at the value shown, NA = Not analyzed

TOOELE AD-NORTH AREA: SWML . 1 - MAIN DEMOLITION AREA
SOIL ANALYTICAL RESULTS FOR GENERAL CHEMICALS

Sample ID	SB-01-002	SB-01-002	SB-01-002	SB-01-002	SB-01-002	SB-01-002	SB-01-003	SB-01-003
Lab ID	OIL1*267	OIL1*268	OIL1*269	OIL1*270	OIL1*271	OIL1*272	OIL1*273	OIL1*274
Date Sampled	07/27/92	07/27/92	07/27/92	07/27/92	07/27/92	07/27/92	07/26/92	07/26/92
Depth (ft)	15.000 ft	35.000 ft	50.000 ft	80.000 ft	90.000 ft	100.000 ft	5.000 ft	15.000 ft
Anions (ug/g)								
Chloride	< 6.0500	31.3000	< 6.0500	294.0000	169.0000	86.9000	76.5000	1880.0000**
Nitrite, nitrate - nonspecified	< 0.6000	0.9500	< 0.6000	3.9900	3.4400	1.6200	2.4400**	9.6700**
Sulfate	< 90.4000	< 90.4000	< 90.4000	< 90.4000	< 90.4000	98.9000	186.0000	295.0000
Total phosphates	890.0000**	600.0000**	100.0000	210.0000	790.0000**	760.0000**	970.0000**	1200.0000**
General Inorganic Parameters								
pH	7.1800	8.0300	9.8900	7.4300	7.1700	8.0300	7.0600	8.2000

5-2-88

tes: ** = Value is above the background concentration for the depth shown, < = Not detected at the value shown, NA = Not analyzed

TOOELE AD-NORTH AREA: SWMU NO. 1 - MAIN DEMOLITION AREA
SOIL ANALYTICAL RESULTS FOR GENERAL CHEMICALS

Sample ID	SB-01-003-DUP	SB-01-003	SB-01-003	SB-01-003	SB-01-003	SB-01-003	EP-01-001	EP-01-001
Lab ID	OIL1*295	OIL1*275	OIL1*276	OIL1*277	OIL1*278	OIL1*279	NSOIL1*1	NSOIL1*2
Date Sampled	07/26/92	07/26/92	07/26/92	07/26/92	07/26/92	07/26/92	05/29/92	05/29/92
Depth (ft)	15.000 ft	25.000 ft	35.000 ft	45.000 ft	70.000 ft	100.000 ft	2.000 ft	4.000 ft
Anions (ug/g)								
Chloride	1830.0000**	453.0000	151.0000	107.0000	91.9000	NA	< 6.0500	< 6.0500
Nitrite, nitrate - nonspecified	9.1900**	7.6200**	4.3100	3.6500	2.2800	NA	2.6100**	0.6170
Sulfate	290.0000	272.0000	636.0000	815.0000**	730.0000	NA	< 90.4000	< 90.4000
Total phosphates	< 300.0000	390.0000	1500.0000**	490.0000**	1100.0000**	420.0000**	420.0000	830.0000**
General Inorganic Parameters								
pH	7.3300	8.1100	5.9400	8.1400	7.4900	8.5700	7.2600	7.1300

Notes: ** = [illegible] is above the background concentration for the depth shown, < = N[illegible]ected at the value shown, NA = Not analyzed

TOOELE AD-NORTH AREA: SWM . 1 - MAIN DEMOLITION AREA
SOIL ANALYTICAL RESULTS FOR GENERAL CHEMICALS

Sample ID	EP-01-002	EP-01-002	EP-01-003	EP-01-003	EP-01-004	EP-01-004	EP-01-005	EP-01-005
Lab ID	NSOIL1*3	NSOIL1*4	NSOIL1*5	NSOIL1*6	NSOIL1*7	NSOIL1*8	NSOIL1*9	SOIL1*10
Date Sampled	05/29/92	05/29/92	05/30/92	05/30/92	05/30/92	05/30/92	05/30/92	05/30/92
Depth (ft)	2.000 ft	3.000 ft	2.000 ft	5.000 ft	3.000 ft	5.000 ft	3.000 ft	7.000 ft
Anions (ug/g)								
Chloride	< 6.0500	< 6.0500	< 6.0500	260.0000**	130.0000	730.0000**	9.3600	360.0000**
Nitrite, nitrate - nonspecified	< 0.6000	< 0.6000	< 0.6000	7.3200**	13.0000**	8.9400**	2.3100	4.2500**
Sulfate	< 90.4000	< 90.4000	< 90.4000	1200.0000**	138.0000	850.0000**	< 90.4000	271.0000
Total phosphates	510.0000**	350.0000	1300.0000**	2400.0000**	660.0000**	580.0000**	760.0000**	610.0000**
General Inorganic Parameters								
pH	8.6400	8.6800	7.6800	9.8100	7.7300	7.6900	8.3800	7.2100

5-2-90

›tes: ** = Value is above the background concentration for the depth shown, < = Not detected at the value shown, NA = Not analyzed

TOOELE AD-NORTH AREA: SWMU NO. 1 - MAIN DEMOLITION AREA
SOIL ANALYTICAL RESULTS FOR GENERAL CHEMICALS

Sample ID	EP-01-006	EP-01-006	EP-01-007	EP-01-007	EP-01-008	EP-01-008	EP-01-009	EP-01-009
Lab ID	SOIL1*11	SOIL1*12	SOIL1*13	SOIL1*14	SOIL1*15	SOIL1*16	SOIL1*17	SOIL1*18
Date Sampled	05/30/92	05/30/92	05/30/92	05/30/92	05/31/92	05/31/92	05/31/92	05/31/92
Depth (ft)	3.000 ft	5.000 ft	3.000 ft	5.000 ft	3.000 ft	7.000 ft	1.500 ft	4.500 ft
Anions (ug/g)								
Chloride	80.2000	440.0000**	11.7000	12.6000	660.0000**	500.0000**	< 6.0500	< 6.0500
Nitrite, nitrate - nonspecified	NA	0.5900	0.9720	< 0.6000	18.0000**	3.3100**	1.8900	1.9600
Sulfate	134.0000	133.0000	< 90.4000	< 90.4000	2600.0000**	387.0000	< 90.4000	< 90.4000
Total phosphates	660.0000**	390.0000	580.0000**	470.0000**	510.0000**	1400.0000**	870.0000**	620.0000**
General Inorganic Parameters								
pH	8.0800	8.3900	9.7000	9.2300	7.2200	9.2300	8.0800	8.5500

Notes: ** = Vr is above the background concentration for the depth shown, < = Not cted at the value shown, NA = Not analyzed

TOOELE AD-NORTH AREA: SW . 1 - MAIN DEMOLITION AREA
SOIl ANALYTICAL RESULTS FOR GENERAL CHEMICALS

Sample ID	EP-01-010	EP-01-010	EP-01-011	EP-01-011-DUP	EP-01-011	EP-01-012	EP-01-012	EP-01-013
Lab ID	SOIL1*19	SOIL1*20	OIL1*218	SOIL1*21	SOIL1*22	SOIL1*23	SOIL1*24	SOIL1*25
Date Sampled	05/31/92	05/31/92	05/31/92	05/31/92	05/31/92	05/31/92	05/31/92	06/01/92
Depth (ft)	2.500 ft	5.500 ft	3.000 ft	3.000 ft	6.000 ft	2.000 ft	4.000 ft	1.000 ft
Anions (ug/g)								
Chloride	390.0000**	1800.0000**	490.0000**	390.0000**	32.4000	< 6.0500	26.7000	< 6.0500
Nitrite, nitrate - nonspecified	2.2000	13.0000**	93.0000**	74.0000**	< 0.6000	0.7460	0.6620	3.0200**
Sulfate	291.0000	< 1800.0000	1400.0000**	1300.0000**	1100.0000**	< 90.4000	< 90.4000	< 90.4000
Total phosphates	630.0000**	480.0000**	260.0000	600.0000**	380.0000	550.0000**	470.0000**	390.0000
General Inorganic Parameters								
pH	7.7500	7.5600	3.8300	6.7500	7.6800	8.1200	9.2000	4.6400

5-2-92

›tes: ** = Value is above the background concentration for the depth shown, < = Not detected at the value shown, NA = Not analyzed

TOOELE AD-NORTH AREA: SWMU NO. 1 - MAIN DEMOLITION AREA
SOIL ANALYTICAL RESULTS FOR GENERAL CHEMICALS

Sample ID	EP-01-013	EP-01-014	EP-01-014	EP-01-015	EP-01-015	EP-01-016	EP-01-016	EP-01-017
Lab ID	SOIL1*26	SOIL1*28	SOIL1*27	SOIL1*30	SOIL1*29	SOIL1*31	SOIL1*32	SOIL1*33
Date Sampled	06/01/92	06/01/92	06/01/92	06/01/92	06/01/92	06/01/92	06/01/92	06/02/92
Depth (ft)	4.500 ft	3.000 ft	7.000 ft	3.500 ft	6.500 ft	0.000 ft	4.500 ft	0.000 ft
Anions (ug/g)								
Chloride	< 6.0500	< 6.0500	390.0000**	7.3300	7.3000	< 6.0500	1200.0000**	26.7000
Nitrite, nitrate - nonspecified	0.9220	2.1800	5.2300**	0.6920	1.7800	< 0.6000	< 0.6000	1.1800
Sulfate	< 90.4000	< 90.4000	< 90.4000	< 90.4000	< 90.4000	< 90.4000	< 900.0000	< 90.4000
Total phosphates	540.0000**	790.0000**	1200.0000**	560.0000**	540.0000**	690.0000**	630.0000**	730.0000**
General Inorganic Parameters								
pH	4.1000	4.6300	3.4200	4.5800	5.9700	8.3600	9.0900	9.0200

Notes: ** = is above the background concentration for the depth shown, < = ▯ ected at the value shown, NA = Not analyzed

5-2-93

TOOELE AD-NORTH AREA: SWA . 1 - MAIN DEMOLITION AREA
SOIL ANALYTICAL RESULTS FOR GENERAL CHEMICALS

Sample ID	EP-01-018	EP-01-018	EP-01-018-DUP	EP-01-019	EP-01-019	EP-01-020	EP-01-020	EP-01-021
Lab ID	SOIL1*36	OIL1*219	SOIL1*35	SOIL1*37	SOIL1*38	SOIL1*39	SOIL1*40	SOIL1*41
Date Sampled	06/02/92	06/02/92	06/02/92	06/03/92	06/03/92	06/03/92	06/03/92	06/03/92
Depth (ft)	4.000 ft	6.500 ft	6.500 ft	1.500 ft	7.500 ft	1.500 ft	4.500 ft	2.000 ft
Anions (ug/g)								
Chloride	95.0000	190.0000	83.4000	72.0000	290.0000**	< 6.0500	< 6.0500	< 6.0500
Nitrite, nitrate - nonspecified	5.8800**	9.2800**	4.4700**	4.0300**	< 0.6000	0.5910	< 0.6000	0.8160
Sulfate	3200.0000**	3000.0000**	4000.0000**	613.0000**	282.0000	< 90.4000	< 90.4000	< 90.4000
Total phosphates	290.0000	< 150.0000	350.0000	750.0000**	530.0000**	460.0000**	540.0000**	620.0000**
General Inorganic Parameters								
pH	6.6700	4.0000	7.1400	7.8900	9.2500	7.2000	9.1600	8.1200

otes: ** = Value is above the background concentration for the depth shown, < = Not detected at the value shown, NA = Not analyzed

5-2-94

TOOELE AD-NORTH AREA: SWMU NO. 1 - MAIN DEMOLITION AREA
SOIL ANALYTICAL RESULTS FOR GENERAL CHEMICALS

Sample ID	EP-01-021	EP-01-022	EP-01-022	EP-01-023	EP-01-023	EP-01-024	EP-01-024	EP-01-025
Lab ID	SOIL1*42	SOIL1*43	SOIL1*44	SOIL1*45	SOIL1*46	SOIL1*47	SOIL1*48	SOIL1*49
Date Sampled	06/03/92	06/04/92	06/04/92	06/04/92	06/04/92	06/04/92	06/04/92	06/04/92
Depth (ft)	4.500 ft	4.000 ft	5.000 ft	4.000 ft	5.500 ft	0.000 ft	4.500 ft	4.500 ft
Anions (ug/g)								
Chloride	60.4000	2500.0000**	640.0000**	79.2000	300.0000**	< 6.0500	18.0000	7600.0000**
Nitrite, nitrate - nonspecified	0.7340	9.7800**	< 0.6000	0.9600	< 0.6000	0.9680	2.0900	9.7500**
Sulfate	< 90.4000	< 90.4000	479.0000**	< 90.4000	< 90.4000	< 90.4000	< 90.4000	< 90.4000
Total phosphates	560.0000**	680.0000**	550.0000**	590.0000**	670.0000**	610.0000**	560.0000**	420.0000
General Inorganic Parameters								
pH	9.2300	7.9800	9.2200	9.2400	8.3300	5.0000	3.6500	2.5900

Notes: ** = Ve s above the background concentration for the depth shown, < = Not ted at the value shown, NA = Not analyzed

TOOELE AD-NORTH AREA: SW. J. 1 - MAIN DEMOLITION AREA
SOIL ANALYTICAL RESULTS FOR GENERAL CHEMICALS

Sample ID	EP-01-025	EP-01-026	EP-01-026	EP-01-027	EP-01-027	EP-01-028	EP-01-028	EP-01-029
Lab ID	SOIL1*50	SOIL1*51	SOIL1*52	SOIL1*53	SOIL1*54	SOIL1*55	SOIL1*56	SOIL1*57
Date Sampled	06/04/92	06/09/92	06/09/92	06/09/92	06/09/92	06/09/92	06/09/92	06/09/92
Depth (ft)	6.500 ft	4.500 ft	7.000 ft	3.500 ft	5.000 ft	4.500 ft	7.000 ft	3.500 ft
Anions (ug/g)								
Chloride	< 6.0500	17.7000	7.4000	18.9000	26.0000	96.7000	42.2000	21.0000
Nitrite, nitrate - nonspecified	< 0.6000	5.1400**	2.2100	30.0000**	4.3000**	16.0000**	11.0000**	2.1250
Sulfate	< 90.4000	< 90.4000	< 90.4000	< 90.4000	< 90.4000	331.0000	< 90.4000	< 90.4000
Total phosphates	320.0000	400.0000	440.0000	550.0000**	470.0000**	530.0000**	400.0000	280.0000
General Inorganic Parameters								
pH	3.1500	3.9000	4.1300	6.0200	6.7400	3.5800	5.6400	2.4600

Notes: ** = Value is above the background concentration for the depth shown, < = Not detected at the value shown, NA = Not analyzed

5-2-96

TOOELE AD-NORTH AREA: SWMU NO. 1 - MAIN DEMOLITION AREA
SOIL ANALYTICAL RESULTS FOR GENERAL CHEMICALS

Sample ID	EP-01-029	EP-01-029-DUP	EP-01-030	EP-01-030	EP-01-031	EP-01-031	EP-01-032	EP-01-032
Lab ID	OIL1*220	SOIL1*58	SOIL1*59	SOIL1*60	SOIL1*62	SOIL1*61	SOIL1*63	SOIL1*64
Date Sampled	06/09/92	06/09/92	06/10/92	06/10/92	06/10/92	06/10/92	06/10/92	06/10/92
Depth (ft)	5.000 ft	5.000 ft	3.000 ft	6.500 ft	0.000 ft	5.500 ft	0.500 ft	5.000 ft
Anions (ug/g)								
Chloride	< 6.0500	7.0000	44.5000	12.1000	< 6.0500	230.0000	< 6.0500	300.0000**
Nitrite, nitrate - nonspecified	1.2500	1.1300	18.0000**	5.7900**	1.6800	1.1100	0.7180	0.6760
Sulfate	< 90.4000	< 90.4000	132.0000	< 90.4000	< 90.4000	< 90.4000	< 90.4000	1500.0000**
Total phosphates	170.0000	220.0000	220.0000	< 150.0000	160.0000	420.0000	400.0000	530.0000**
General Inorganic Parameters								
pH	3.3100	3.0800	9.1500	8.2100	8.2400	8.2800	8.1100	3.5300

Notes: ** = 's above the background concentration for the depth shown, < = No cted at the value shown, NA = Not analyzed

TOOELE AD-NORTH AREA: S D. 1 - MAIN DEMOLITION AREA
SOIL ANALYTICAL RESULTS FOR GENERAL CHEMICALS

Sample ID	EP-01-033	EP-01-033	EP-01-034	EP-01-034	EP-01-035	EP-01-035	EP-01-036	EP-01-036
Lab ID	SOIL1*65	SOIL1*66	SOIL1*67	SOIL1*68	SOIL1*70	SOIL1*69	SOIL1*71	SOIL1*72
Date Sampled	06/11/92	06/11/92	06/11/92	06/11/92	06/11/92	06/11/92	06/11/92	06/11/92
Depth (ft)	4.000 ft	6.500 ft	3.500 ft	6.000 ft	0.500 ft	6.000 ft	0.000 ft	5.000 ft
Anions (ug/g)								
Chloride	45.0000	< 6.0500	240.0000	180.0000	< 6.0500	< 6.0500	< 6.0500	< 6.0500
Nitrite, nitrate - nonspecified	390.0000**	42.0000**	500.0000**	530.0000**	1.9500	26.0000**	0.9130	0.6950
Sulfate	< 90.4000	< 90.4000	< 90.4000	193.0000	< 90.4000	< 90.4000	< 90.4000	< 90.4000
Total phosphates	< 150.0000	450.0000**	310.0000	420.0000	260.0000	480.0000**	410.0000	590.0000**
General Inorganic Parameters								
pH	7.7700	7.5400	7.3200	7.2400	8.0200	9.1000	9.5700	8.7400

Notes: ** = Value is above the background concentration for the depth shown, < = Not detected at the value shown, NA = Not analyzed

TOOELE AD-NORTH AREA: SWMU NO. 1 - MAIN DEMOLITION AREA
SOIL ANALYTICAL RESULTS FOR GENERAL CHEMICALS

Sample ID	EP-01-037	EP-01-037	EP-01-038	EP-01-038	EP-01-039	EP-01-039	EP-01-040	EP-01-040
Lab ID	SOIL1*73	SOIL1*74	SOIL1*75	SOIL1*76	SOIL1*77	SOIL1*78	SOIL1*79	SOIL1*80
Date Sampled	06/12/92	06/12/92	06/12/92	06/12/92	06/12/92	06/12/92	06/12/92	06/12/92
Depth (ft)	0.500 ft	6.500 ft	0.500 ft	7.000 ft	0.000 ft	7.500 ft	0.000 ft	8.500 ft
Anions (ug/g)								
Chloride	< 6.0500	830.0000**	< 6.0500	< 6.0500	< 6.0500	< 6.0500	< 6.0500	< 6.0500
Nitrite, nitrate - nonspecified	1.1400	46.0000**	1.1300	8.8600**	0.7700	4.3200**	< 0.6000	7.6100**
Sulfate	< 90.4000	605.0000**	< 90.4000	< 90.4000	< 90.4000	< 90.4000	< 90.4000	< 90.4000
Total phosphates	520.0000**	330.0000	350.0000	250.0000	300.0000	< 150.0000	500.0000**	< 150.0000
General Inorganic Parameters								
pH	9.1200	8.0300	8.8200	8.9900	7.5200	8.4200	9.0000	9.1300

Notes: ** = is above the background concentration for the depth shown, < = N ected at the value shown, NA = Not analyzed

TOOELE AD-NORTH AREA: ! O. 1 - MAIN DEMOLITION AREA
SOIL ANALYTICAL RES..S FOR GENERAL CHEMICALS

Sample ID	EP-01-041	EP-01-041	EP-01-042	EP-01-042-DUP	EP-01-042	EP-01-043	EP-01-043	EP-01-044
Lab ID	SOIL1*81	SOIL1*82	OIL1*227	SOIL1*83	SOIL1*84	SOIL1*85	SOIL1*86	SOIL1*87
Date Sampled	06/13/92	06/13/92	06/13/92	06/13/92	06/13/92	06/13/92	06/13/92	06/13/92
Depth (ft)	0.000 ft	9.000 ft	2.000 ft	2.000 ft	5.000 ft	0.000 ft	5.000 ft	0.000 ft
Anions (ug/g)								
Chloride	< 6.0500	< 6.0500	131.0000	101.0000	< 6.0500	< 6.0500	170.0000	< 6.0500
Nitrite, nitrate - nonspecified	< 0.6000	20.0000**	500.0000**	380.0000**	1.2800	3.1400**	1.2800	1.1700
Sulfate	< 90.4000	< 90.4000	< 90.4000	158.0000	< 90.4000	< 90.4000	118.0000	< 90.4000
Total phosphates	340.0000	< 150.0000	< 150.0000	550.0000**	330.0000	370.0000	380.0000	460.0000**
General Inorganic Parameters								
pH	7.8900	7.1600	7.8500	5.5600	8.5800	7.2100	9.3200	7.1200

Notes: ** = Value is above the background concentration for the depth shown, < = Not detected at the value shown, NA = Not analyzed

TOOELE AD NORTH AREA: SWMU NO. 1 - MAIN DEMOLITION AREA
SOIL ANALYTICAL RESULTS FOR GENERAL CHEMICALS

Sample ID	EP-01-044	EP-01-045	EP-01-045-DUP	EP-01-045	EP-01-046	EP-01-046-DUP	EP-01-046	EP-01-047
Lab ID	SOIL1*88	OIL1*221	SOIL1*89	SOIL1*90	OIL1*222	SOIL1*91	SOIL1*92	OIL1*223
Date Sampled	06/13/92	06/14/92	06/14/92	06/14/92	06/14/92	06/14/92	06/14/92	06/14/92
Depth (ft)	5.000 ft	3.500 ft	3.500 ft	5.500 ft	3.000 ft	3.000 ft	4.500 ft	1.000 ft
Anions (ug/g)								
Chloride	2800.0000**	560.0000**	590.0000**	590.0000**	97.3000	112.0000	1100.0000**	9.9600
Nitrite, nitrate - nonspecified	15.0000**	4.2600**	4.1900**	1.6600	96.0000**	110.0000**	260.0000**	2.3300
Sulfate	1100.0000**	156.0000	156.0000	338.0000	< 90.4000	< 90.4000	870.0000**	< 90.4000
Total phosphates	870.0000**	630.0000**	1200.0000**	720.0000**	470.0000**	400.0000	530.0000**	390.0000
General Inorganic Parameters								
pH	7.9300	6.6200	6.2700	9.1100	6.7500	6.9900	6.8000	7.2700

Notes: ** = Value is above the background concentration for the depth shown, < = Not detected at the value shown, NA = Not analyzed

TOOELE AD-NORTH AREA: S NO. 1 - MAIN DEMOLITION AREA
SOIL ANALYTICAL RESULTS FOR GENERAL CHEMICALS

Sample ID	EP-01-047-DUP	EP-01-047	EP-01-048	EP-01-048	EP-01-049	EP-01-049	EP-01-050	EP-01-050
Lab ID	SOIL1*93	SOIL1*94	SOIL1*95	SOIL1*96	SOIL1*97	SOIL1*98	SOIL1*99	OIL1*100
Date Sampled	06/14/92	06/14/92	06/14/92	06/14/92	06/14/92	06/14/92	06/15/92	06/15/92
Depth (ft)	1.000 ft	5.000 ft	0.000 ft	4.500 ft	0.000 ft	4.500 ft	2.500 ft	4.500 ft
Anions (ug/g)								
Chloride	6.8900	101.0000	< 6.0500	690.0000**	< 6.0500	1700.0000**	360.0000**	1400.0000**
Nitrite, nitrate - nonspecified	1.6200	1.2700	4.2400**	0.9240	13.0000**	0.7590	12.0000**	1.3700
Sulfate	< 90.4000	115.0000	< 90.4000	760.0000**	< 90.4000	2500.0000**	300.0000	1400.0000**
Total phosphates	500.0000**	690.0000**	530.0000**	320.0000	490.0000**	680.0000**	620.0000**	410.0000
General Inorganic Parameters								
pH	8.2100	7.0300	7.2200	7.1000	6.9300	6.9900	7.9200	8.9700

Notes: ** = Value is above the background concentration for the depth shown, < = Not detected at the value shown, NA = Not analyzed

TOOELE AD-NORTH AREA: SWMU NO. 1 - MAIN DEMOLITION AREA
SOIL ANALYTICAL RESULTS FOR GENERAL CHEMICALS

Sample ID	EP-01-051	EP-01-051-DUP	EP-01-051	EP-01-052	EP-01-052	EP-01-053	EP-01-053-DUP	EP-01-053
Lab ID	OIL1*101	OIL1*224	OIL1*102	OIL1*103	OIL1*104	OIL1*105	OIL1*225	OIL1*106
Date Sampled	06/15/92	06/15/92	06/15/92	06/15/92	06/15/92	06/16/92	06/16/92	06/16/92
Depth (ft)	2.500 ft	2.500 ft	5.000 ft	2.500 ft	7.000 ft	3.500 ft	3.500 ft	6.500 ft
Anions (ug/g)								
Chloride	< 6.0500	< 6.0500	< 6.0500	950.0000**	35.2000	2300.0000**	2100.0000**	5200.0000**
Nitrite, nitrate - nonspecified	0.9270	1.1100	1.4600	6.4400**	23.0000**	78.0000**	76.0000**	< 0.6000
Sulfate	< 90.4000	< 90.4000	< 90.4000	632.0000**	< 90.4000	441.0000	479.0000**	1200.0000**
Total phosphates	630.0000**	320.0000	< 150.0000	510.0000**	740.0000**	660.0000**	330.0000	210.0000
General Inorganic Parameters								
pH	7.3500	6.7600	9.2100	7.1900	7.9300	6.4900	6.8500	7.1600

Notes: ** = [illegible] is above the background concentration for the depth shown, < = N[illegible]ected at the value shown, NA = Not analyzed

TOOELE AD-NORTH AREA: S   D. 1 - MAIN DEMOLITION AREA
SOIL ANALYTICAL RESU..S FOR GENERAL CHEMICALS

Sample ID	EP-01-054	EP-01-054-DUP	EP-01-054	EP-01-055	EP-01-055	EP-01-055-DUP	EP-01-056	EP-01-056-DUP
Lab ID	OIL1*107	OIL1*226	OIL1*108	OIL1*109	OIL1*110	OIL1*239	OIL1*111	OIL1*240
Date Sampled	06/16/92	06/16/92	06/16/92	06/17/92	06/17/92	06/17/92	06/17/92	06/17/92
Depth (ft)	2.000 ft	2.000 ft	4.500 ft	2.000 ft	5.000 ft	5.000 ft	2.000 ft	2.000 ft
Anions (ug/g)								
Chloride	8.1600	7.7800	6.7600	< 6.0500	< 6.0500	< 6.0500	300.0000**	320.0000**
Nitrite, nitrate - nonspecified	2.2600	25.0000**	1.0200	< 0.6000	0.6520	0.5850	< 0.6000	< 0.6000
Sulfate	< 90.4000	< 90.4000	< 90.4000	< 90.4000	< 90.4000	< 90.4000	< 90.4000	< 90.4000
Total phosphates	490.0000**	< 150.0000	370.0000	220.0000	190.0000	450.0000**	190.0000	240.0000
General Inorganic Parameters								
pH	7.1700	6.9400	7.4500	8.0300	8.3000	8.1000	8.2700	8.8400

Notes: ** = Value is above the background concentration for the depth shown, < = Not detected at the value shown, NA = Not analyzed

TOOELE AD-NORTH AREA: SWMU NO. 1 - MAIN DEMOLITION AREA
SOIL ANALYTICAL RESULTS FOR GENERAL CHEMICALS

Sample ID	EP-01-056	EP-01-057	EP-01-057	EP-01-058	EP-01-058	EP-01-059	EP-01-059-DUP	EP-01-059
Lab ID	OIL1*112	OIL1*113	OIL1*114	OIL1*115	OIL1*116	OIL1*117	OIL1*241	OIL1*118
Date Sampled	06/17/92	06/17/92	06/17/92	06/18/92	06/18/92	06/18/92	06/18/92	06/18/92
Depth (ft)	4.500 ft	2.500 ft	5.000 ft	3.000 ft	5.000 ft	0.000 ft	0.000 ft	5.000 ft
Anions (ug/g)								
Chloride	2200.0000**	< 6.0500	< 6.0500	6.4200	< 6.0500	6.5800	6.9000	2400.0000**
Nitrite, nitrate - nonspecified	0.6420	0.6570	< 0.6000	< 0.6000	< 0.6000	15.0000**	13.0000**	7.7000**
Sulfate	252.0000	< 90.4000	< 90.4000	< 90.4000	< 90.4000	< 90.4000	< 90.4000	1500.0000**
Total phosphates	190.0000	190.0000	190.0000	290.0000	220.0000	620.0000**	330.0000	620.0000**
General Inorganic Parameters								
pH	7.0100	7.8800	8.0000	8.4300	8.1400	6.5700	6.6300	9.1300

Notes: ** = [illegible] is above the background concentration for the depth shown, < = No[illegible]ected at the value shown, NA = Not analyzed

TOOELE AD-NORTH AREA: S. O. 1 - MAIN DEMOLITION AREA
SOIL ANALYTICAL RESULTS FOR GENERAL CHEMICALS

Sample ID	EP-01-060	EP-01-060	EP-01-061	EP-01-061-DUP	EP-01-061	EP-01-062	EP-01-062	EP-01-063
Lab ID	OIL1*119	OIL1*120	OIL1*121	OIL1*242	OIL1*122	OIL1*123	OIL1*124	OIL1*126
Date Sampled	06/18/92	06/18/92	06/18/92	06/18/92	06/18/92	06/23/92	06/23/92	06/23/92
Depth (ft)	2.500 ft	5.500 ft	4.500 ft	4.500 ft	7.000 ft	2.500 ft	6.000 ft	1.000 ft
Anions (ug/g)								
Chloride	< 6.0500	< 6.0500	< 6.0500	< 6.0500	< 6.0500	< 6.0500	7.7300	< 6.0500
Nitrite, nitrate - nonspecified	4.9300**	13.0000**	2.4100**	2.3900**	11.0000**	< 0.6000	14.0000**	< 0.6000
Sulfate	< 90.4000	< 90.4000	< 90.4000	< 90.4000	< 90.4000	< 90.4000	< 90.4000	< 90.4000
Total phosphates	710.0000**	690.0000**	440.0000	110.0000	660.0000**	410.0000	960.0000**	260.0000
General Inorganic Parameters								
pH	7.4600	6.9100	7.2100	7.1500	7.5900	7.0300	7.0900	6.8100

Notes: ** = Value is above the background concentration for the depth shown, < = Not detected at the value shown, NA = Not analyzed

TOOELE AD-NORTH AREA: SWMU NO. 1 - MAIN DEMOLITION AREA
SOIL ANALYTICAL RESULTS FOR GENERAL CHEMICALS

Sample ID	EP-01-063	EP-01-064	EP-01-064-DUP	EP-01-064	EP-01-065	EP-01-065	EP-01-066	EP-01-066
Lab ID	OIL1*125	OIL1*127	OIL1*243	OIL1*128	OIL1*129	OIL1*130	OIL1*131	OIL1*132
Date Sampled	06/23/92	06/23/92	06/23/92	06/23/92	06/23/92	06/23/92	06/24/92	06/24/92
Depth (ft)	5.000 ft	0.500 ft	0.500 ft	5.000 ft	0.000 ft	4.500 ft	3.000 ft	5.000 ft
Anions (ug/g)								
Chloride	< 6.0500	< 6.0500	< 6.0500	27.7000	< 6.0500	23.2000	< 6.0500	< 6.0500
Nitrite, nitrate - nonspecified	17.0000**	3.1000**	3.7800**	2.5900**	2.1100	1.4300	< 0.6000	< 0.6000
Sulfate	< 90.4000	< 90.4000	< 90.4000	< 90.4000	< 90.4000	529.0000**	< 90.4000	< 90.4000
Total phosphates	810.0000**	440.0000	85.0000	750.0000**	540.0000**	520.0000**	670.0000**	650.0000**
General Inorganic Parameters								
pH	6.6600	7.2700	6.8700	9.0400	7.1300	8.6400	8.3400	7.5500

Notes: ** = V is above the background concentration for the depth shown, < = No' cted at the value shown, NA = Not analyzed

TOOELE AD-NORTH AREA: S   D. 1 - MAIN DEMOLITION AREA
SOIL ANALYTICAL RES...S FOR GENERAL CHEMICALS

Sample ID	EP-01-067	EP-01-067	EP-01-068	EP-01-068	EP-01-068-DUP	EP-01-069	EP-01-069	EP-01-069-DUP
Lab ID	OIL1*133	OIL1*134	OIL1*135	OIL1*136	OIL1*248	OIL1*137	OIL1*138	OIL1*249
Date Sampled	06/24/92	06/24/92	06/24/92	06/24/92	06/24/92	06/24/92	06/24/92	06/24/92
Depth (ft)	0.000 ft	4.500 ft	3.000 ft	5.000 ft	5.000 ft	3.500 ft	5.500 ft	5.500 ft
Anions (ug/g)								
Chloride	< 6.0500	8.4100	8.7500	< 6.0500	< 6.0500	< 6.0500	< 6.0500	< 6.0500
Nitrite, nitrate - nonspecified	< 0.6000	< 0.6000	1.6500	< 0.6000	< 0.6000	< 0.6000	< 0.6000	< 0.6000
Sulfate	< 90.4000	< 90.4000	< 90.4000	< 90.4000	< 90.4000	< 90.4000	< 90.4000	< 90.4000
Total phosphates	240.0000	230.0000	310.0000	320.0000	350.0000	250.0000	120.0000	440.0000
General Inorganic Parameters								
pH	7.6600	8.4800	7.4400	7.0300	9.4500	8.2100	7.9900	8.2100

Notes: ** = Value is above the background concentration for the depth shown, < = Not detected at the value shown, NA = Not analyzed

TOOELE AD-NORTH AREA: SWMU NO. 1 - MAIN DEMOLITION AREA
SOIL ANALYTICAL RESULTS FOR GENERAL CHEMICALS

Sample ID	EP-01-070	EP-01-070	EP-01-071	EP-01-071	EP-01-072	EP-01-072	EP-01-073	EP-01-073
Lab ID	OIL1*139	OIL1*140	OIL1*141	OIL1*142	OIL1*143	OIL1*144	OIL1*145	OIL1*146
Date Sampled	06/25/92	06/25/92	06/25/92	06/25/92	06/26/92	06/26/92	06/26/92	06/26/92
Depth (ft)	3.000 ft	5.000 ft	2.500 ft	5.500 ft	0.000 ft	4.500 ft	0.000 ft	5.500 ft
Anions (ug/g)								
Chloride	< 6.0500	< 6.0500	< 6.0500	< 6.0500	< 6.0500	76.8000	< 6.0500	270.0000**
Nitrite, nitrate - nonspecified	< 0.6000	< 0.6000	0.9330	< 0.6000	2.8800**	39.0000**	5.4700**	16.0000**
Sulfate	< 90.4000	< 90.4000	< 90.4000	< 90.4000	< 90.4000	< 90.4000	< 90.4000	326.0000
Total phosphates	230.0000	140.0000	170.0000	160.0000	490.0000**	730.0000**	300.0000	810.0000**
General Inorganic Parameters								
pH	8.6800	8.1300	8.1800	8.6200	7.7300	8.5200	7.9700	9.1900

Notes: ** = I is above the background concentration for the depth shown, < = No ected at the value shown, NA = Not analyzed

TOOELE AD-NORTH AREA: S O. 1 - MAIN DEMOLITION AREA
SOIL ANALYTICAL RESULTS FOR GENERAL CHEMICALS

Sample ID	EP-01-074	EP-01-074	EP-01-075	EP-01-075	EP-01-076	EP-01-076	EP-01-077	EP-01-077
Lab ID	OIL1*147	OIL1*148	OIL1*149	OIL1*150	OIL1*151	OIL1*152	OIL1*153	OIL1*154
Date Sampled	06/26/92	06/26/92	06/26/92	06/26/92	06/28/92	06/28/92	06/29/92	06/29/92
Depth (ft)	2.500 ft	9.500 ft	0.500 ft	5.000 ft	0.000 ft	5.500 ft	0.000 ft	4.500 ft
Anions (ug/g)								
Chloride	17.0000	12.8000	8.5300	1600.0000**	< 6.0500	< 6.0500	< 6.0500	1100.0000**
Nitrite, nitrate - nonspecified	6.9700**	1.6400	47.0000**	53.0000**	0.7400	< 0.6000	1.7000	0.7150
Sulfate	< 90.4000	< 90.4000	< 90.4000	166.0000	< 90.4000	< 90.4000	< 90.4000	940.0000**
Total phosphates	550.0000**	600.0000**	510.0000**	710.0000**	160.0000	230.0000	380.0000	1200.0000**
General Inorganic Parameters								
pH	9.1500	9.2600	7.5500	7.2500	8.0300	7.8700	6.8200	7.0300

Notes: ** = Value is above the background concentration for the depth shown, < = Not detected at the value shown, NA = Not analyzed

TOOELE AD-NORTH AREA: SWMU NO. 1 - MAIN DEMOLITION AREA
SOIL ANALYTICAL RESULTS FOR GENERAL CHEMICALS

Sample ID	EP-01-078	EP-01-078	EP-01-079	EP-01-079	EP-01-080	EP-01-080	EP-01-081	EP-01-081
Lab ID	OIL1*155	OIL1*156	OIL1*157	OIL1*158	OIL1*159	OIL1*160	OIL1*161	OIL1*162
Date Sampled	06/29/92	06/29/92	06/29/92	06/29/92	06/29/92	06/29/92	06/30/92	06/30/92
Depth (ft)	0.000 ft	5.000 ft	0.000 ft	5.500 ft	0.000 ft	6.000 ft	0.000 ft	5.500 ft
Anions (ug/g)								
Chloride	< 6.0500	1100.0000**	< 6.0500	1200.0000**	< 6.0500	1500.0000**	12.0000	< 6.0500
Nitrite, nitrate - nonspecified	0.7730	0.9300	2.4200**	0.7560	0.8360	5.0200**	1.3300	< 0.6000
Sulfate	< 90.4000	880.0000**	< 90.4000	1800.0000**	< 90.4000	548.0000**	< 90.4000	< 90.4000
Total phosphates	440.0000	940.0000**	300.0000	1100.0000**	400.0000	750.0000**	1000.0000**	900.0000**
General Inorganic Parameters								
pH	7.1400	7.1200	7.9100	8.0400	7.8500	6.9900	7.4900	7.7700

Notes: ** = Value is above the background concentration for the depth shown, < = Not detected at the value shown, NA = Not analyzed

TOOELE AD-NORTH AREA: S\ J. 1 - MAIN DEMOLITION AREA
SOIL ANALYTICAL RESULTS FOR GENERAL CHEMICALS

Sample ID	EP-01-082	EP-01-082
Lab ID	OIL1*163	OIL1*164
Date Sampled	06/30/92	06/30/92
Depth (ft)	1.000 ft	5.000 ft
Anions (ug/g)		
Chloride	11.9000	< 6.0500
Nitrite, nitrate - nonspecified	62.0000**	12.0000**
Sulfate	158.0000	< 90.4000
Total phosphates	1200.0000**	1200.0000**
General Inorganic Parameters		
pH	7.8400	6.8900

Notes: ** = Value is above the background concentration for the depth shown, < = Not detected at the value shown, NA = Not analyzed

Table 5-3

MONTGOMERY WATSON

TABLE 5-3

CLUSTER BOMB DETONATION AREA
(SWMU 1a)
ANALYTICAL RESULTS

TOOELE AD-NORTH AREA: SWMU NO. 1A - CLUSTER BOMB AREA
SOIL ANALYTICAL RESULTS FOR METALS

Sample ID	SB-01-004	SB-01-004	SB-01-004	SB-01-004	SB-01-004	SB-01-004	SB-01-004	EP-01-090
Lab ID	OIL1*280	OIL1*281	OIL1*282	OIL1*283	OIL1*284	OIL1*285	OIL1*286	OIL1*179
Date Sampled	07/25/92	07/25/92	07/25/92	07/25/92	07/25/92	07/26/92	07/26/92	06/30/92
Depth (ft)	5.000 ft	10.000 ft	15.000 ft	20.000 ft	40.000 ft	50.000 ft	100.000 ft	0.000 ft
Metals and Cyanide (ug/g)								
Aluminum	14000.0000	3460.0000	5510.0000	6160.0000	16300.0000	3110.0000	17600.0000	10900.0000
Antimony	< 7.1400	< 7.1400	< 7.1400	< 7.1400	< 7.1400	< 7.1400	< 7.1400	< 7.1400
Arsenic	7.1100	6.2000	6.3900	8.3700**	5.5400	3.5400	8.4500**	5.6500
Barium	172.0000	49.0000	70.1000	76.4000	182.0000	38.4000	154.0000	157.0000
Beryllium	1.3900	0.5860	< 0.5000	1.0400	1.2600	< 0.5000	1.5200	1.5100
Cadmium	< 0.7000	< 0.7000	< 0.7000	< 0.7000	< 0.7000	< 0.7000	< 0.7000	< 0.7000
Calcium	58900.0000	30000.0000	38000.0000	34600.0000	13800.0000	130000.0000	47800.0000	38200.0000
Chromium	17.1000	9.9800	9.3200	10.4000	16.1000	6.4400	16.9000	13.0000
Cobalt	7.8800**	2.8800	4.8000	4.4100	8.3500	2.0900	8.6600	5.7200
Copper	16.5000	6.2700	8.0200	9.2500	16.3000	5.5600	18.7000**	22.6000
Cyanide	< 0.9200	< 0.9200	< 0.9200	< 0.9200	< 0.9200	< 0.9200	< 0.9200	< 0.9200
Iron	14800.0000	8600.0000	8950.0000	10800.0000	17200.0000	5330.0000	18900.0000	12900.0000
Lead	14.0000	9.7100	9.6100	11.4000	14.0000	4.5500	18.0000**	16.0000
Magnesium	9440.0000	3740.0000	5860.0000	6970.0000	7870.0000	8980.0000	12100.0000	8740.0000
Manganese	450.0000	215.0000	230.0000	190.0000	545.0000	166.0000	617.0000	404.0000
Mercury	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	0.0643**	0.0643**
Nickel	18.3000**	9.7600	9.7100	10.4000	18.8000	6.9700	22.4000**	14.8000
Potassium	3820.0000	616.0000	1290.0000	1270.0000	3730.0000	542.0000	4350.0000	3840.0000
Selenium	1.1900**	0.5980**	0.7440**	0.6210**	0.6930**	1.5600**	1.2300**	< 0.2500
Silver	< 0.5890	< 0.5890	< 0.5890	< 0.5890	< 0.5890	< 0.5890	< 0.5890	< 0.5890
Sodium	3380.0000**	1450.0000	2010.0000**	2390.0000**	581.0000	270.0000	392.0000	361.0000
Thallium	< 6.6200	< 6.6200	< 6.6200	< 6.6200	< 6.6200	10.2000	< 6.6200	< 6.6200
Vanadium	26.9000	12.1000	17.7000	22.9000	25.3000	12.0000	28.9000	23.4000
Zinc	63.1000	23.2000	31.5000	33.8000	62.3000	25.9000	83.3000	61.0000

Notes: ** is above the background concentration for the depth shown, < = cted at the value shown, NA = Not analyzed

TOOELE AD-NORTH AREA J NO. 1A - CLUSTER BOMB AREA
SOIL ANALYTICAL RESULTS FOR METALS

Sample ID	EP-01-090	EP-01-091	EP-01-091	EP-01-092	EP-01-092	EP-01-093	EP-01-093	EP-01-094
Lab ID	OIL1*180	OIL1*181	OIL1*182	OIL1*183	OIL1*184	OIL1*185	OIL1*186	OIL1*187
Date Sampled	06/30/92	06/30/92	06/30/92	07/01/92	07/01/92	07/01/92	07/01/92	07/01/92
Depth (ft)	5.000 ft	0.000 ft	5.000 ft	0.000 ft	5.000 ft	0.000 ft	4.500 ft	0.000 ft
Metals and Cyanide (ug/g)								
Aluminum	6250.0000	11500.0000	7580.0000	12800.0000	15000.0000	11200.0000	7820.0000	13900.0000
Antimony	< 7.1400	< 7.1400	< 7.1400	< 7.1400	< 7.1400	< 7.1400	< 7.1400	< 7.1400
Arsenic	9.6500	6.1000	11.3000	6.8100	8.5600	6.1600	8.8000	6.5900
Barium	144.0000	186.0000	166.0000	167.0000	171.0000	216.0000	148.0000	198.0000
Beryllium	0.7860	1.3300	1.0000	1.6000	1.8300**	1.3100	0.8870	1.5600
Cadmium	< 0.7000	0.8490**	< 0.7000	< 0.7000	< 0.7000	1.3900**	< 0.7000	1.5000**
Calcium	40600.0000	23000.0000	54600.0000	36600.0000	44000.0000	29300.0000	78000.0000**	34400.0000
Chromium	8.9300	13.9000	9.7300	15.2000	20.3000	15.0000	11.1000	17.3000
Cobalt	4.2800	5.9200	4.5600	6.4300	8.0200**	5.6500	4.4500	6.6200
Copper	8.2000	49.0000**	11.2000	29.4000**	15.8000	142.0000**	7.5600	84.6000**
Cyanide	< 0.9200	< 0.9200	< 0.9200	< 0.9200	< 0.9200	< 0.9200	< 0.9200	< 0.9200
Iron	8950.0000	13500.0000	10800.0000	13600.0000	17200.0000	15400.0000	10200.0000	16000.0000
Lead	10.2000	23.6000	11.6000	22.0000	15.0000	27.2000	9.7200	24.2000
Magnesium	7040.0000	8880.0000	9940.0000	10000.0000	10100.0000	7880.0000	7730.0000	9760.0000
Manganese	157.0000	458.0000	173.0000	525.0000	668.0000**	454.0000	202.0000	516.0000
Mercury	< 0.0500	0.0698**	< 0.0500	< 0.0500	< 0.0500	0.0765**	0.0686**	0.0746**
Nickel	9.7100	14.0000	12.5000	16.8000**	22.4000**	14.3000	11.1000	17.5000**
Potassium	1320.0000	4530.0000	2150.0000	4560.0000	2620.0000	3820.0000	1320.0000	4850.0000
Selenium	< 0.2500	< 0.2500	< 0.2500	< 0.2500	< 0.2500	< 0.2500	< 0.2500	< 0.2500
Silver	< 0.5890	< 0.5890	< 0.5890	< 0.5890	< 0.5890	< 0.5890	< 0.5890	< 0.5890
Sodium	1440.0000**	364.0000	2050.0000**	392.0000	2440.0000**	343.0000	1110.0000	391.0000
Thallium	< 6.6200	< 6.6200	< 6.6200	< 6.6200	< 6.6200	< 6.6200	< 6.6200	< 6.6200
Vanadium	20.2000	20.5000	26.0000	22.3000	28.2000	20.4000	24.0000	24.3000
Zinc	27.6000	85.3000	36.4000	73.7000	87.2000	120.0000**	30.9000	109.0000**

Notes: ** = Value is above the background concentration for the depth shown, < = Not detected at the value shown, NA = Not analyzed

TOOELE AD-NORTH AREA: SWMU NO. 1A - CLUSTER BOMB AREA
SOIL ANALYTICAL RESULTS FOR METALS

Sample ID	EP-01-094	EP-01-094-DUP	EP-01-095	EP-01-095
Lab ID	OIL1*188	OIL1*257	OIL1*189	OIL1*190
Date Sampled	07/01/92	07/01/92	07/01/92	07/01/92
Depth (ft)	5.000 ft	5.000 ft	0.000 ft	7.000 ft
Metals and Cyanide (ug/g)				
Aluminum	15800.0000	11300.0000	11600.0000	16400.0000
Antimony	< 7.1400	< 7.1400	< 7.1400	< 7.1400
Arsenic	7.2300	3.8200	6.2800	7.9600
Barium	274.0000**	206.0000	291.0000**	170.0000
Beryllium	1.8100**	1.4200	1.4900	1.9800**
Cadmium	< 0.7000	0.9670**	1.4000**	< 0.7000
Calcium	40400.0000	37300.0000	33600.0000	38100.0000
Chromium	18.5000	13.6000	14.3000	19.8000
Cobalt	6.4700	6.2100	5.6200	7.1000**
Copper	67.1000**	49.0000**	95.6000**	19.0000
Cyanide	< 0.9200	< 0.9200	< 0.9200	< 0.9200
Iron	15700.0000	12300.0000	12300.0000	16600.0000
Lead	23.0000	560.0000**	25.1000	16.0000
Magnesium	10300.0000	8520.0000	8140.0000	9040.0000
Manganese	477.0000	422.0000	410.0000	467.0000
Mercury	0.0675**	0.0600**	0.0692**	< 0.0500
Nickel	19.7000**	15.0000	13.8000	20.4000**
Potassium	4720.0000	3620.0000	3870.0000	3460.0000
Selenium	< 0.2500	< 0.2500	< 0.2500	< 0.2500
Silver	< 0.5890	< 0.5890	< 0.5890	< 0.5890
Sodium	433.0000	362.0000	379.0000	1680.0000**
Thallium	< 6.6200	< 6.6200	< 6.6200	< 6.6200
Vanadium	25.8000	20.4000	19.8000	27.5000
Zinc	102.0000	79.8000	106.0000	74.5000

Notes: ** = is above the background concentration for the depth shown, < = ected at the value shown, NA = Not analyzed

TOOELE AD-NORTH AREA. J NO. 1A - CLUSTER BOMB AREA
SOIL ANALYTICAL RESULTS FOR ORGANIC COMPOUNDS

Sample ID	SB-01-004	SB-01-004	SB-01-004	SB-01-004	SB-01-004	SB-01-004	SB-01-004	EP-01-090
Lab ID	OIL1*280	OIL1*281	OIL1*282	OIL1*283	OIL1*284	OIL1*285	OIL1*286	OIL1*179
Date Sampled	07/25/92	07/25/92	07/25/92	07/25/92	07/25/92	07/26/92	07/26/92	06/30/92
Depth (ft)	5.000 ft	10.000 ft	15.000 ft	20.000 ft	40.000 ft	50.000 ft	100.000 ft	0.000 ft
Volatile Organic Compounds (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA
Semivolatile Organic Compounds (ug/g)								
Hexadecanoic acid, butyl ester (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
Pesticides (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA
Herbicides (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA
Total Petroleum Hydrocarbons (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA
Explosives (ug/g)								
2,4-Dinitrotoluene	< 0.4240	< 0.4240	< 0.4240	< 0.4240	< 0.4240	< 0.4240	< 0.4240	< 0.4240
Cyclonite (RDX)	< 0.5870	< 0.5870	< 0.5870	< 0.5870	< 0.5870	< 0.5870	< 0.5870	< 0.5870
Dioxins/Furans (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA

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Notes: ** = Analyte was detected at the concentration shown < = Not detected at the value shown, NA = Not analyzed

TOOELE AD-NORTH AREA: SWMU NO. 1A - CLUSTER BOMB AREA
SOIL ANALYTICAL RESULTS FOR ORGANIC COMPOUNDS

Sample ID	EP-01-090	EP-01-091	EP-01-091	EP-01-092	EP-01-092	EP-01-093	EP-01-093	EP-01-093-DUP
Lab ID	OIL1*180	OIL1*181	OIL1*182	OIL1*183	OIL1*184	OIL1*185	OIL1*186	OIL1*258
Date Sampled	06/30/92	06/30/92	06/30/92	07/01/92	07/01/92	07/01/92	07/01/92	07/01/92
Depth (ft)	5.000 ft	0.000 ft	5.000 ft	0.000 ft	5.000 ft	0.000 ft	4.500 ft	4.500 ft
Volatile Organic Compounds (ug/g)	NA	NA	NA	NA	NA	NA	NA	ND
Semivolatile Organic Compounds (ug/g)								
Hexadecanoic acid, butyl ester (TIC)	NA	NA	NA	NA	NA	NA	0.4000**	NA
Pesticides (ug/g)	NA	NA	NA	NA	NA	NA	ND	NA
Herbicides (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA
Total Petroleum Hydrocarbons (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA
Explosives (ug/g)								
2,4-Dinitrotoluene	< 0.4240	< 0.4240	< 0.4240	< 0.4240	< 0.4240	< 0.4240	< 0.1400	NA
Cyclonite (RDX)	< 0.5870	< 0.5870	< 0.5870	< 0.5870	< 0.5870	< 0.5870	< 0.5870	NA
Dioxins/Furans (ug/g)	NA	NA	NA	NA	NA	NA	NA	ND

Notes: ** = te was detected at the concentration shown < = Not detected at the e shown, NA = Not analyzed

TOOELE AD-NORTH AREA: J NO. 1A - CLUSTER BOMB AREA
SOIL ANALYTICAL RESULTS FOR ORGANIC COMPOUNDS

Sample ID	EP-01-094	EP-01-094	EP-01-094-DUP	EP-01-094-DUP	EP-01-095	EP-01-095	EP-01-095-DUP
Lab ID	OIL1*187	OIL1*257	OIL1*188	OIL1*257	OIL1*189	OIL1*190	OIL1*362
Date Sampled	07/01/92	06/28/92	07/01/92	07/01/92	07/01/92	07/01/92	07/01/92
Depth (ft)	0.000 ft	5.000 ft	5.000 ft	5.000 ft	0.000 ft	7.000 ft	7.000 ft
Volatile Organic Compounds (ug/g)	NA	NA	NA	NA	NA	NA	NA
Semivolatile Organic Compounds (ug/g)							
Hexadecanoic acid, butyl ester (TIC)	NA	NA	NA	NA	NA	NA	NA
Pesticides (ug/g)	NA	NA	NA	NA	NA	NA	ND
Herbicides (ug/g)	NA	NA	NA	NA	NA	NA	NA
Total Petroleum Hydrocarbons (ug/g)	NA	NA	NA	NA	NA	NA	NA
Explosives (ug/g)							
2,4-Dinitrotoluene	< 0.4240	NA	< 0.4240	10.5000**	< 0.4240	< 0.4240	< 0.1400
Cyclonite (RDX)	< 0.5870	NA	< 0.5870	4.9000**	< 0.5870	< 0.5870	NA
Dioxins/Furans (ug/g)	NA	ND	NA	ND	NA	NA	ND

Notes: ** = Analyte was detected at the concentration shown < = Not detected at the value shown, NA = Not analyzed

TOOELE AD-NORTH AREA: SWMU NO. 1A - CLUSTER BOMB AREA
SOIL ANALYTICAL RESULTS FOR GENERAL CHEMICALS

Sample ID	SB-01-004	SB-01-004	SB-01-004	SB-01-004	SB-01-004	SB-01-004	SB-01-004	EP-01-000
Lab ID	OIL1*280	OIL1*281	OIL1*282	OIL1*283	OIL1*284	OIL1*285	OIL1*286	OIL1*179
Date Sampled	07/25/92	07/25/92	07/25/92	07/25/92	07/25/92	07/26/92	07/26/92	06/30/92
Depth (ft)	5.000 ft	10.000 ft	15.000 ft	20.000 ft	40.000 ft	50.000 ft	100.000 ft	0.000 ft
Anions (ug/g)								
Chloride	1380.0000**	1380.0000**	787.0000	879.0000	2250.0000**	173.0000	26.7000	< 6.0500
Nitrite, nitrate - nonspecified	< 1.8000	0.8720	0.7820	0.6770	26.0000**	2.3200	1.6400	0.6000
Sulfate	691.0000**	607 0000	< 904.0000	< 904.0000	< 90.4000	< 90.4000	< 90.4000	< 90.4000
Total phosphates	1200.0000**	400.0000	520.0000**	310.0000	560.0000**	1400.0000**	2100.0000**	710.0000**
General Inorganic Parameters								
pH	7.0100	7.5100	8.5400	7.2000	7.5300	7.5700	8.0400	8.7500

Notes: ** = V is above the background concentration for the depth shown, < = N :ted at the value shown, NA = Not analyzed

TOOELE AD-NORTH AREA: NO. 1A - CLUSTER BOMB AREA
SOIL ANALYTICAL RESULTS FOR GENERAL CHEMICALS

Sample ID	EP-01-090	EP-01-091	EP-01-091	EP-01-092	EP-01-092	EP-01-093	EP-01-093	EP-01-094
Lab ID	OIL1*180	OIL1*181	OIL1*182	OIL1*183	OIL1*184	OIL1*185	OIL1*186	OIL1*187
Date Sampled	06/30/92	06/30/92	06/30/92	07/01/92	07/01/92	07/01/92	07/01/92	07/01/92
Depth (ft)	5.000 ft	0.000 ft	5.000 ft	0.000 ft	5.000 ft	0.000 ft	4.500 ft	0.000 ft
Anions (ug/g)								
Chloride	8.6900	< 6.0500	< 6.0500	< 6.0500	76.3000	< 6.0500	< 6.0500	9.6000
Nitrite, nitrate - nonspecified	< 0.6000	0.8240	< 0.6000	0.6580	< 0.6000	2.4700**	2.1000	6.0700**
Sulfate	< 90.4000	< 90.4000	< 90.4000	< 90.4000	3100.0000**	< 90.4000	< 90.4000	< 90.4000
Total phosphates	790.0000**	860.0000**	580.0000**	560.0000**	380.0000	360.0000	350.0000	610.0000**
General Inorganic Parameters								
pH	8.4300	7.7100	10.1000	8.8700	9.0600	8.9100	10.0000	9.0000

Notes: ** = Value is above the background concentration for the depth shown, < = Not detected at the value shown, NA = Not analyzed

TOOELE AD-NORTH AREA: SWMU NO. 1A - CLUSTER BOMB AREA
SOIL ANALYTICAL RESULTS FOR GENERAL CHEMICALS

Sample ID	EP-01-094	EP-01-094-DUP	EP-01-095	EP-01-095
Lab ID	OIL1*188	OIL1*257	OIL1*189	OIL1*190
Date Sampled	07/01/92	07/01/92	07/01/92	07/01/92
Depth (ft)	5.000 ft	5.000 ft	0.000 ft	7.000 ft
Anions (ug/g)				
Chloride	25.8000	21.4000	9.1300	60.4000
Nitrite, nitrate - nonspecified	51.0000**	39.0000**	7.4500**	5.4900**
Sulfate	< 90.4000	< 90.4000	< 90.4000	< 90.4000
Total phosphates	370.0000	460.0000**	370.0000	570.0000**
General Inorganic Parameters				
pH	8.6000	8.5600	8.8700	9.4000

Notes: ** = V[illegible] is above the background concentration for the depth shown, < = N[illegible]ected at the value shown, NA = Not analyzed

Table 5-4

MONTGOMERY WATSON

TABLE 5-4

BURN PAD (SWMU 1b)
ANALYTICAL RESULTS

TOOELE AD-NORTH AREA: SWMU NO. 18 - BURN PAD AREA
SOIL ANALYTICAL RESULTS FOR METALS

Sample ID	SB-01-006	SB-01-006	SB-01-006	SB-01-006	SB-01-006	SB-01-006	SB-01-006	EP-01-096
Lab ID	OIL1*373	OIL1*374	OIL1*375	OIL1*376	OIL1*377	OIL1*378	OIL1*379	OIL1*191
Date Sampled	07/30/92	07/30/92	07/30/92	07/30/92	07/30/92	07/30/92	07/30/92	08/04/92
Depth (ft)	5.000 ft	20.000 ft	35.000 ft	60.000 ft	70.000 ft	80.000 ft	100.000 ft	3.500 ft
Metals and Cyanide (ug/g)								
Aluminum	2790.0000	3860.0000	2870.0000	4990.0000	13000.0000	20400.0000	4570.0000	4590.0000
Antimony	< 7.1400	< 7.1400	< 7.1400	< 7.1400	< 7.1400	< 7.1400	< 7.1400	< 7.1400
Arsenic	2.6500	3.9600	3.9700	11.9000**	7.8900	3.2100	8.2200**	7.2900
Barium	47.5000	76.0000	59.2000	89.8000	85.0000	126.0000	122.0000	272.0000**
Beryllium	< 0.5000	< 0.5000	< 0.5000	< 0.5000	1.0600	1.3300	< 0.5000	< 0.5000
Cadmium	< 0.7000	< 0.7000	< 0.7000	< 0.7000	< 0.7000	< 0.7000	< 0.7000	3.1100**
Calcium	9590.0000	29800.0000	21300.0000	28100.0000	9260.0000	4480.0000	77000.0000	8890.0000
Chromium	< 4.0500	5.7100	5.6900	10.2000	17.7000	20.3000	8.1200	8.0000
Cobalt	2.2900	3.1600	2.9600	4.0300	6.2100	9.7500	4.5100	2.7000
Copper	3.6200	7.8000	5.2700	8.4700	12.4000	18.9000**	9.7800	25.1000
Cyanide	< 0.9200	< 0.9200	< 0.9200	< 0.9200	< 0.9200	< 0.9200	NA	< 0.9200
Iron	4910.0000	8460.0000	5540.0000	14500.0000	14500.0000	20000.0000	8520.0000	9490.0000
Lead	5.4000	8.6200	6.2400	9.6400	12.0000	15.0000	5.8600	97.2000**
Magnesium	1770.0000	6210.0000	4500.0000	5670.0000	6190.0000	6830.0000	8190.0000	2740.0000
Manganese	97.0000	273.0000	64.8000	143.0000	125.0000	589.0000	1190.0000**	194.0000
Mercury	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500
Nickel	4.7500	9.2100	5.1000	10.7000	15.8000	19.9000**	23.0000**	7.4600
Potassium	643.0000	1030.0000	575.0000	1170.0000	3510.0000	5060.0000	1210.0000	1440.0000
Selenium	< 0.2500	< 0.2500	< 0.2500	< 0.2500	< 0.2500	< 0.2500	< 0.2500	< 0.2500
Silver	< 0.5890	< 0.5890	< 0.5890	< 0.5890	< 0.5890	< 0.5890	< 0.5890	< 0.5890
Sodium	244.0000	758.0000	566.0000	715.0000	925.0000	1050.0000	575.0000	325.0000
Thallium	< 6.6200	< 6.6200	< 6.6200	< 6.6200	< 6.6200	< 6.6200	< 6.6200	< 6.6200
Vanadium	7.9200	13.9000	10.9000	18.2000	25.8000	29.0000	14.3000	8.5500
Zinc	14.4000	24.8000	19.1000	35.2000	62.5000	74.0000	38.0000	171.0000**

Notes: ** = Value is above the background concentration for the depth shown, < = Not detected at the value shown, NA = Not analyzed

TOOELE AD-NORTH AR MU NO. 1B - BURN PAD AREA
SOIL ANALYTICAL RESULTS FOR METALS

Sample ID	EP-01-096-DUP	EP-01-096	EP-01-097	EP-01-097	EP-01-098	EP-01-098	EP-01-099	EP-01-099
Lab ID	OIL1*326	OIL1*192	OIL1*193	OIL1*194	OIL1*195	OIL1*196	OIL1*197	OIL1*198
Date Sampled	08/04/92	08/04/92	08/05/92	08/05/92	08/05/92	08/05/92	08/05/92	08/05/92
Depth (ft)	3.500 ft	8.000 ft	0.000 ft	6.000 ft	0.000 ft	5.500 ft	7.000 ft	9.500 ft
Metals and Cyanide (ug/g)								
Aluminum	4420.0000	3130.0000	4750.0000	3970.0000	7190.0000	2960.0000	14800.0000	2230.0000
Antimony	< 7.1400	< 7.1400	< 7.1400	< 7.1400	< 7.1400	< 7.1400	< 7.1400	< 7.1400
Arsenic	6.7100	2.5400	3.6100	3.2600	3.5200	2.8700	8.5700	8.4100
Barium	219.0000	55.7000	71.3000	66.9000	94.0000	44.8000	80.3000	48.5000
Beryllium	< 0.5000	< 0.5000	< 0.5000	< 0.5000	< 0.5000	< 0.5000	< 0.5000	< 0.5000
Cadmium	4.1100**	< 0.7000	< 0.7000	< 0.7000	< 0.7000	< 0.7000	36.7000**	< 0.7000
Calcium	8890.0000	10100.0000	11300.0000	17200.0000	3370.0000	6650.0000	15700.0000	11900.0000
Chromium	18.3000	< 4.0500	7.7500	< 4.0500	8.8400	< 4.0500	13.9000	< 4.0500
Cobalt	5.6600	1.9200	2.2500	2.2300	3.7700	2.3600	4.0000	2.4500
Copper	47.2000**	4.2700	22.8000	4.0800	11.1000	4.4700	737.0000**	6.1200
Cyanide	< 0.9200	< 0.9200	< 0.9200	< 0.9200	< 0.9200	< 0.9200	< 0.9200	< 0.9200
Iron	21900.0000	4780.0000	6560.0000	5250.0000	8560.0000	4790.0000	34100.0000**	5500.0000
Lead	104.0000**	3.8400	17.0000	4.3600	9.4100	4.9100	159.0000**	7.3700
Magnesium	2720.0000	1380.0000	2680.0000	2770.0000	3860.0000	1380.0000	2910.0000	3680.0000
Manganese	281.0000	127.0000	177.0000	132.0000	295.0000	99.1000	317.0000	110.0000
Mercury	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500
Nickel	12.0000	3.3200	5.7600	4.5300	7.8000	4.3300	22.0000**	5.4400
Potassium	1350.0000	1070.0000	1420.0000	1110.0000	2500.0000	584.0000	1580.0000	684.0000
Selenium	< 0.2500	< 0.2500	< 0.2500	< 0.2500	< 0.2500	< 0.2500	< 0.2500	< 0.2500
Silver	< 0.5890	< 0.5890	< 0.5890	< 0.5890	< 0.5890	< 0.5890	35.0000**	< 0.5890
Sodium	270.0000	203.0000	213.0000	230.0000	240.0000	201.0000	1050.0000	298.0000
Thallium	< 6.6200	< 6.6200	< 6.6200	< 6.6200	< 6.6200	< 6.6200	< 6.6200	< 6.6200
Vanadium	6.7100	7.6100	9.3900	8.7800	12.3000	8.0900	7.3700	12.0000
Zinc	158.0000**	20.9000	61.0000	19.5000	61.8000	16.1000	1740.0000**	26.0000

Notes: ** = Value is above the background concentration for the depth shown, < = Not detected at the value shown, NA = Not analyzed

TOOELE AD-NORTH AREA: SWMU NO. 1B - BURN PAD AREA
SOIL ANALYTICAL RESULTS FOR METALS

Sample ID	EP-01-099-DUP	EP-01-100	EP-01-100	EP-01-101	EP-01-101
Lab ID	01L1*328	01L1*199	01L1*200	01L1*201	01L1*202
Date Sampled	08/05/92	08/05/92	08/05/92	08/06/92	08/06/92
Depth (ft)	9.500 ft	3.000 ft	5.000 ft	3.500 ft	7.500 ft
Metals and Cyanide (ug/g)					
Aluminum	2530.0000	6600.0000	5740.0000	3460.0000	2000.0000
Antimony	< 7.1400	< 7.1400	< 7.1400	< 7.1400	< 7.1400
Arsenic	7.3900	3.6700	4.9100	3.5700	5.1100
Barium	54.4000	145.0000	80.7000	80.5000	82.6000
Beryllium	< 0.5000	< 0.5000	< 0.5000	< 0.5000	< 0.5000
Cadmium	< 0.7000	35.1000**	< 0.7000	< 0.7000	< 0.7000
Calcium	11700.0000	17200.0000	13900.0000	12200.0000	31400.0000
Chromium	< 4.0500	10.0000	8.7000	5.5100	< 4.0500
Cobalt	2.2200	3.8800	3.9100	2.8800	2.6300
Copper	4.4600	36.4000**	6.1700	9.5900	9.2200
Cyanide	< 0.9200	< 0.9200	< 0.9200	< 0.9200	< 0.9200
Iron	5400.0000	10400.0000	8660.0000	7250.0000	4410.0000
Lead	5.1500	227.0000**	9.9000	32.9000	13.0000
Magnesium	3670.0000	4260.0000	3400.0000	2320.0000	6590.0000
Manganese	114.0000	277.0000	149.0000	250.0000	148.0000
Mercury	< 0.0500	< 0.0500	< 0.0500	0.1140**	< 0.0500
Nickel	5.6500	8.9000	7.8100	6.0300	5.9700
Potassium	715.0080	2130.0000	1410.0000	1510.0000	841.0000
Selenium	< 0.2500	< 0.2500	< 0.2500	< 0.2500	< 0.2500
Silver	< 0.5890	3.7000**	< 0.5890	< 0.5890	< 0.5890
Sodium	298.0000	472.0000	258.0000	474.0000	243.0000
Thallium	< 6.6200	< 6.6200	< 6.6200	< 6.6200	< 6.6200
Vanadium	12.2000	13.1000	15.2000	7.0800	8.9200
Zinc	23.5000	524.0000**	23.8000	57.1000	20.4000

Notes: ** [illegible] is above the background concentration for the depth shown, < = [illegible]:ected at the value shown, NA = Not analyzed

TOOELE AD-NORTH AREA) NO. 1B - BURN PAD AREA
SOIL ANALYTICAL RESU..S FOR ORGANIC COMPOUNDS

Sample ID	SB-01-006	SB-01-006	SB-01-006	SB-01-006	SB-01-006	SB-01-006	EP-01-096	EP-01-096-DUP
Lab ID	OIL1*373	OIL1*374	OIL1*375	OIL1*376	OIL1*377	OIL1*378	OIL1*191	OIL1*326
Date Sampled	07/30/92	07/30/92	07/30/92	07/30/92	07/30/92	07/30/92	08/04/92	08/04/92
Depth (ft)	5.000 ft	20.000 ft	35.000 ft	60.000 ft	70.000 ft	80.000 ft	3.500 ft	3.500 ft
Volatile Organic Compounds (ug/g)								
Tetrachloroethene	< 0.0008	< 0.0008	< 0.0008	NA	NA	NA	< 0.0008	NA
Semivolatile Organic Compounds (ug/g)								
Bis (2-ethylhexyl) phthalate	< 0.6200	< 0.6200	0.7500**	NA	NA	NA	< 3.0000	NA
Pesticides (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA
Herbicides (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA
Total Petroleum Hydrocarbons (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA
Explosives (ug/g)								
2,4,6-Trinitrotoluene	< 0.4560	< 0.4560	< 0.4560	< 0.4560	< 0.4560	< 0.4560	< 0.4560	< 0.4560
Cyclonite (RDX)	< 0.5870	< 0.5870	< 0.5870	< 0.5870	< 0.5870	< 0.5870	0.8260**	< 0.5870
Dioxins/Furans (ug/g)								
Heptachlorodibenzodioxin - non specific	NA	NA	NA	NA	NA	NA	0.001500**	NA
Heptachlorodibenzofuran - non specific	NA	NA	NA	NA	NA	NA	0.000100**	NA
Hexachlorodibenzodioxin - non specific	NA	NA	NA	NA	NA	NA	0.000300**	NA
Octachlorodibenzodioxin - non specific	NA	NA	NA	NA	NA	NA	0.005900**	NA

Notes: ** = Analyte was detected at the concentration shown < = Not detected at the value shown, NA = Not analyzed

TOOELE AD-NORTH AREA: SWMU NO. 1B - BURN PAD AREA
SOIL ANALYTICAL RESULTS FOR ORGANIC COMPOUNDS

Sample ID	EP-01-096	EP-01-097	EP-01-097	EP-01-098	EP-01-098	EP-01-099	EP-01-099	EP-01-099-DUP
Lab ID	OIL1*192	OIL1*193	OIL1*194	OIL1*195	OIL1*196	OIL1*197	OIL1*198	OIL1*328
Date Sampled	08/04/92	08/05/92	08/05/92	08/05/92	08/05/92	08/05/92	08/05/92	08/05/92
Depth (ft)	8.000 ft	0.000 ft	6.000 ft	0.000 ft	5.500 ft	7.000 ft	9.500 ft	9.500 ft
Volatile Organic Compounds (ug/g)								
Tetrachloroethene	NA	NA	NA	NA	NA	1.1000**	NA	NA
Semivolatile Organic Compounds (ug/g)								
Bis (2-ethylhexyl) phthalate	NA	NA	NA	NA	NA	< 0.6200	NA	NA
Pesticides (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA
Herbicides (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA
Total Petroleum Hydrocarbons (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA
Explosives (ug/g)								
2,4,6-Trinitrotoluene	< 0.4560	0.6400**	< 0.4560	< 0.4560	< 0.4560	< 0.4560	< 0.4560	< 0.4560
Cyclonite (RDX)	< 0.5870	< 0.5870	< 0.5870	< 0.5870	< 0.5870	< 0.5870	< 0.5870	< 0.5870
Dioxins/Furans (ug/g)								
Heptachlorodibenzodioxin - non specific	NA	NA	NA	NA	NA	NA	NA	NA
Heptachlorodibenzofuran - non specific	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorodibenzodioxin - non specific	NA	NA	NA	NA	NA	NA	NA	NA
Octachlorodibenzodioxin - non specific	NA	NA	NA	NA	NA	NA	NA	NA

Notes: ** = Analyte was detected at the concentration shown < = Not detected at the value shown, NA = Not analyzed

TOOELE AD-NORTH AREA. J NO. 1B - BURN PAD AREA
SOIL ANALYTICAL RESULTS FOR ORGANIC COMPOUNDS

Sample ID	EP-01-100	EP-01-100	EP-01-101	EP-01-101
Lab ID	OIL1*199	OIL1*200	OIL1*201	OIL1*202
Date Sampled	08/05/92	08/05/92	08/06/92	08/06/92
Depth (ft)	3.000 ft	5.000 ft	3.500 ft	7.500 ft
Volatile Organic Compounds (ug/g)				
Tetrachloroethene	NA	NA	NA	NA
Semivolatile Organic Compounds (ug/g)				
Bis (2-ethylhexyl) phthalate	NA	NA	NA	NA
Pesticides (ug/g)	NA	NA	NA	NA
Herbicides (ug/g)	NA	NA	NA	NA
Total Petroleum Hydrocarbons (ug/g)	NA	NA	NA	NA
Explosives (ug/g)				
2,4,6-Trinitrotoluene	< 0.4560	< 0.4560	< 0.4560	< 0.4560
Cyclonite (RDX)	< 0.5870	< 0.5870	0.9940**	< 0.5870
Dioxins/Furans (ug/g)				
Heptachlorodibenzodioxin - non specific	NA	NA	NA	NA
Heptachlorodibenzofuran - non specific	NA	NA	NA	NA
Hexachlorodibenzodioxin - non specific	NA	NA	NA	NA
Octachlorodibenzodioxin - non specific	NA	NA	NA	NA

Notes: ** = Analyte was detected at the concentration shown < = Not detected at the value shown, NA = Not analyzed

TOOELE AD-NORTH AREA: SWMU NO. 1B - BURN PAD AREA
SOIL ANALYTICAL RESULTS FOR GENERAL CHEMICALS

Sample ID	SB-01-006	SB-01-006	SB-01-006	SB-01-006	SB-01-006	SB-01-006	EP-01-096	EP-01-096-DUI
Lab ID	01L1*373	01L1*374	01L1*375	01L1*376	01L1*377	01L1*378	01L1*191	01L1*326
Date Sampled	07/30/92	07/30/92	07/30/92	07/30/92	07/30/92	07/30/92	08/04/92	08/04/92
Depth (ft)	5.000 ft	20.000 ft	35.000 ft	60.000 ft	70.000 ft	80.000 ft	3.500 ft	3.500 ft
Anions (ug/g)								
Chloride	< 6.0500	< 6.0500	29.7000	121.0000	135.0000	148.0000	< 6.0500	< 6.0500
Nitrite, nitrate - nonspecified	< 0.6000	1.2700	2.3300	3.4900	3.5600	2.4900	2.5300**	2.2700
Sulfate	< 90.4000	< 90.4000	< 90.4000	< 90.4000	< 90.4000	128.0000	< 90.4000	< 90.4000
Total phosphates	410.0000	1200.0000**	540.0000**	85.0000	150.0000	110.0000	280.0000	440.0000
General Inorganic Parameters								
pH	8.6300	9.0500	9.1100	8.0000	7.8100	7.4400	6.3700	8.5200

Notes: ** = is above the background concentration for the depth shown, < = ected at the value shown, NA = Not analyzed

TOOELE AD-NORTH ARE   MU NO. 18 - BURN PAD AREA
SOIL ANALYTICAL RESULTS FOR GENERAL CHEMICALS

Sample ID	EP-01-096	EP-01-097	EP-01-097	EP-01-098	EP-01-098	EP-01-099	EP-01-099	EP-01-099-DUP
Lab ID	OIL1*192	OIL1*193	OIL1*194	OIL1*195	OIL1*196	OIL1*197	OIL1*198	OIL1*328
Date Sampled	08/04/92	08/05/92	08/05/92	08/05/92	08/05/92	08/05/92	08/05/92	08/05/92
Depth (ft)	8.000 ft	0.000 ft	6.000 ft	0.000 ft	5.500 ft	7.000 ft	9.500 ft	9.500 ft
Anions (ug/g)								
Chloride	< 6.0500	< 6.0500	< 6.0500	< 6.0500	< 6.0500	238.0000	16.8000	18.8000
Nitrite, nitrate - nonspecified	1.5800	0.6470	0.6410	0.6800	< 0.6000	7.3900**	1.2200	1.3400
Sulfate	< 90.4000	< 90.4000	< 90.4000	< 90.4000	< 90.4000	245.0000	< 90.4000	< 90.4000
Total phosphates	580.0000**	470.0000**	330.0000	700.0000**	530.0000**	300.0000	290.0000	600.0000**
General Inorganic Parameters								
pH	7.2600	8.1300	7.1200	7.6800	7.7300	7.2800	8.1300	7.4700

Notes: ** = Value is above the background concentration for the depth shown, < = Not detected at the value shown, NA = Not analyzed

TOOELE AD-NORTH AREA; SWMU NO. 1B - BURN PAD AREA
SOIL ANALYTICAL RESULTS FOR GENERAL CHEMICALS

Sample ID	EP-01-100	EP-01-100	EP-01-101	EP-01-101
Lab ID	OIL1*199	OIL1*200	OIL1*201	OIL1*202
Date Sampled	08/05/92	08/05/92	08/06/92	08/06/92
Depth (ft)	3.000 ft	5.000 ft	3.500 ft	7.500 ft
Anions (ug/g)				
Chloride	28.5000	10.6000	43.3000	< 6.0500
Nitrite, nitrate - nonspecified	5.1400**	< 0.6000	0.5930	< 0.6000
Sulfate	< 90.4000	< 90.4000	5650.0000**	< 90.4000
Total phosphates	590.0000**	260.0000	410.0000	710.0000**
General Inorganic Parameters				
pH	8.3000	8.2100	7.8700	9.1200

Notes: ** = [illegible] is above the background concentration for the depth shown, < = [illegible] tected at the value shown, NA = Not analyzed

Table 5-5

MONTGOMERY WATSON

TABLE 5-5

TRASH BURN PITS (SWMU 1c)
ANALYTICAL RESULTS

TOOELE AD-NORTH AREA: SWMU NO. 1C - TRASH BURN PITS
SOIL ANALYTICAL RESULTS FOR METALS

Sample ID	SB-01-007	SB-01-007-DUP	SB-01-007	SB-01-007	SB-01-007	SB-01-007	SB-01-007	SB-01-007
Lab ID	OIL1*380	OIL1*394	OIL1*383	OIL1*381	OIL1*384	OIL1*382	OIL1*385	OIL1*386
Date Sampled	07/29/92	07/29/92	07/29/92	07/29/92	07/29/92	07/29/92	07/29/92	07/29/92
Depth (ft)	5.000 ft	5.000 ft	10.000 ft	20.000 ft	25.000 ft	35.000 ft	45.000 ft	60.000 ft
Metals and Cyanide (ug/g)								
Aluminum	3440.0000	2760.0000	4800.0000	2140.0000	5010.0000	4370.0000	7110.0000	6180.0000
Antimony	< 7.1400	< 7.1400	< 7.1400	< 7.1400	< 7.1400	< 7.1400	< 7.1400	< 7.1400
Arsenic	12.0000	14.0000	14.0000**	8.7200**	10.4000**	11.1000**	6.1200	3.6900
Barium	117.0000	116.0000	95.4000	88.1000	104.0000	75.2000	66.1000	67.8000
Beryllium	< 0.5000	< 0.5000	< 0.5000	< 0.5000	< 0.5000	< 0.5000	0.7160	0.8600
Cadmium	< 0.7000	< 0.7000	< 0.7000	< 0.7000	< 0.7000	< 0.7000	< 0.7000	< 0.7000
Calcium	28500.0000	29000.0000	35000.0000	23600.0000	36900.0000	32400.0000	19900.0000	10700.0000
Chromium	6.5600	5.5800	8.3800	< 4.0500	8.1000	10.5000	12.5000	18.7000
Cobalt	2.7900	3.0200	3.3700	2.6500	3.9200	4.9900	4.6700	4.7600
Copper	6.1100	5.8800	7.8500	5.1700	7.7700	8.3800	10.2000	7.0500
Cyanide	< 0.9200	< 0.9200	< 0.9200	< 0.9200	< 0.9200	< 0.9200	< 0.9200	< 0.9200
Iron	7600.0000	7050.0000	9120.0000	5990.0000	9260.0000	10700.0000	11300.0000	12000.0000
Lead	8.8000	9.0400	10.2000	5.7900	11.8000	9.3700	8.9700	11.0000
Magnesium	6150.0000	5900.0000	6690.0000	5050.0000	7620.0000	5700.0000	3950.0000	3660.0000
Manganese	119.0000	107.0000	133.0000	124.0000	159.0000	175.0000	137.0000	139.0000
Mercury	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500
Nickel	7.2400	5.9900	8.4800	5.3400	8.8000	12.0000	12.8000	11.8000
Potassium	981.0000	829.0000	1380.0000	552.0000	1360.0000	1150.0000	1950.0000	1240.0000
Selenium	< 0.2500	< 0.2500	< 0.2500	< 0.2500	< 0.2500	< 0.2500	< 0.2500	< 0.2500
Silver	< 0.5890	< 0.5890	< 0.5890	< 0.5890	< 0.5890	< 0.5890	< 0.5890	< 0.5890
Sodium	1420.0000**	1440.0000**	1740.0000	2010.0000**	2880.0000**	1740.0000	1000.0000	719.0000
Thallium	< 6.6200	< 6.6200	< 6.6200	< 6.6200	< 6.6200	< 6.6200	< 6.6200	< 6.6200
Vanadium	16.3000	15.3000	19.3000	10.4000	17.0000	18.8000	18.4000	15.6000
Zinc	22.6000	21.3000	29.5000	16.9000	31.0000	32.0000	49.2000	37.3000

Notes: ** = Vr is above the background concentration for the depth shown, < = Not ected at the value shown, NA = Not analyzed

TOOELE AD-NORTH AREA: NO. 1C - TRASH BURN PITS
SOIL ANALYTICAL RESULTS FOR METALS

Sample ID	SB-01-008	SB-01-008	SB-01-008	SB-01-008	SB-01-008	SB-01-008	SB-01-008	EP-01-102
Lab ID	OIL1*387	OIL1*388	OIL1*389	OIL1*390	OIL1*391	OIL1*392	OIL1*393	OIL1*203
Date Sampled	07/28/92	07/28/92	07/28/92	07/28/92	07/28/92	07/28/92	07/29/92	08/06/92
Depth (ft)	5.000 ft	15.000 ft	25.000 ft	35.000 ft	55.000 ft	60.000 ft	100.000 ft	3.500 ft
Metals and Cyanide (ug/g)								
Aluminum	5790.0000	1930.0000	6000.0000	6420.0000	6640.0000	2290.0000	7440.0000	4520.0000
Antimony	< 7.1400	< 7.1400	< 7.1400	< 7.1400	< 7.1400	< 7.1400	< 7.1400	< 7.1400
Arsenic	11.8000	4.3700	10.2000**	5.7100	3.5600	1.9100	6.0100	3.7800
Barium	118.0000	89.7000	139.0000	115.0000	64.8000	45.9000	81.6000	126.0000
Beryllium	< 0.5000	< 0.5000	0.6860	0.6890	0.8070	< 0.5000	0.9260	1.1200
Cadmium	< 0.7000	< 0.7000	< 0.7000	< 0.7000	< 0.7000	< 0.7000	< 0.7000	5.3300**
Calcium	39900.0000	17000.0000	36900.0000	28700.0000	12800.0000	34700.0000	82000.0000	19100.0000
Chromium	8.5000	< 4.0500	9.6900	11.2000	11.0000	< 4.0500	11.4000	6.7800
Cobalt	3.4500	2.4000	4.2900	3.7800	5.3700	2.7600	4.9000	3.8900
Copper	6.6900	4.8000	8.9000	10.0000	7.1400	3.5600	8.2700	36.8000**
Cyanide	< 0.9200	< 0.9200	< 0.9200	< 0.9200	< 0.9200	< 0.9200	< 0.9200	< 0.9200
Iron	8710.0000	4400.0000	9270.0000	12700.0000	12700.0000	5050.0000	9450.0000	35900.0000**
Lead	8.7900	4.8600	11.9000	12.4000	15.0000	8.1000	8.4900	129.0000**
Magnesium	7830.0000	3910.0000	7500.0000	6050.0000	4060.0000	6510.0000	8650.0000	3950.0000
Manganese	133.0000	89.2000	97.5000	99.0000	287.0000	106.0000	294.0000	274.0000
Mercury	< 0.0500	0.0645**	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	0.3190**
Nickel	8.7900	3.7300	11.3000	9.8500	13.4000	5.6300	14.8000	9.7700
Potassium	1590.0000	403.0000	1410.0000	1490.0000	1610.0000	448.0000	1870.0000	1770.0000
Selenium	0.7820**	0.4300**	0.8930**	1.5900**	0.5270**	0.5300**	1.2500**	< 0.2500
Silver	< 0.5890	< 0.5890	< 0.5890	< 0.5890	< 0.5890	< 0.5890	< 0.5890	2.1400**
Sodium	1770.0000**	820.0000	2250.0000**	1860.0000**	484.0000	320.0000	298.0000	339.0000
Thallium	< 6.6200	< 6.6200	< 6.6200	< 6.6200	< 6.6200	< 6.6200	< 6.6200	< 6.6200
Vanadium	19.5000	9.1100	20.7000	24.8000	13.2000	8.4000	16.8000	8.1700
Zinc	27.2000	13.9000	33.9000	37.9000	45.8000	17.7000	41.5000	119.0000**

Notes: ** = Value is above the background concentration for the depth shown, < = Not detected at the value shown, NA = Not analyzed

TOOELE AD-NORTH AREA: SWMU NO. 1C - TRASH BURN PITS
SOIL ANALYTICAL RESULTS FOR METALS

Sample ID	EP-01-102	EP-01-102-DUP	EP-01-103	EP-01-103	EP-01-104	EP-01-104	EP-01-105	EP-01-105
Lab ID	OIL1*204	OIL1*332	OIL1*205	OIL1*206	OIL1*207	OIL1*208	OIL1*209	OIL1*210
Date Sampled	08/06/92	08/06/92	08/06/92	08/06/92	08/06/92	08/06/92	08/07/92	08/07/92
Depth (ft)	9.500 ft	9.500 ft	0.000 ft	6.000 ft	3.000 ft	5.500 ft	5.000 ft	7.000 ft
Metals and Cyanide (ug/g)								
Aluminum	5270.0000	6470.0000	3460.0000	9910.0000	7580.0000	2660.0000	6130.0000	3860.0000
Antimony	< 7.1400	< 7.1400	< 7.1400	< 7.1400	10.5000**	< 7.1400	14.6000**	< 7.1400
Arsenic	6.7600	7.0500	7.3500	4.0200	15.0000	7.0900	5.1200	6.6500
Barium	128.0000	132.0000	87.7000	149.0000	411.0000**	85.6000	148.0000	101.0000
Beryllium	1.4900	0.6280	< 0.5000	1.1000	0.7270	< 0.5000	0.8910	< 0.5000
Cadmium	1.7400**	2.5400**	< 0.7000	< 0.7000	6.0000**	< 0.7000	4.1700**	< 0.7000
Calcium	17700.0000	21800.0000	27200.0000	14200.0000	25400.0000	30800.0000	10700.0000	35800.0000
Chromium	13.4000	12.9000	5.8700	11.2000	9.3600	< 4.0500	9.1500	5.3800
Cobalt	6.4200	5.4700	2.6200	5.5200	4.5200	2.5000	4.3500	4.0300
Copper	1340.0000**	44.3000**	5.8800	13.9000	21.1000	4.3000	327.0000**	9.9500
Cyanide	< 0.9200	< 0.9200	< 0.9200	< 0.9200	< 0.9200	< 0.9200	< 0.9200	< 0.9200
Iron	38200.0000**	25700.0000**	5940.0000	11000.0000	12900.0000	5260.0000	21900.0000	6870.0000
Lead	297.0000**	203.0000**	6.8100	11.2000	56.6000**	6.7900	76.0000**	10.6000
Magnesium	4480.0000	5060.0000	4960.0000	7100.0000	5810.0000	6790.0000	3570.0000	8260.0000
Manganese	434.0000	330.0000	76.2000	442.0000	307.0000	110.0000	471.0000	187.0000
Mercury	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500
Nickel	26.3000**	15.8000	5.4600	11.9000	9.9400	5.8800	13.8000	7.7800
Potassium	2000.0000	2170.0000	793.0000	4080.0000	2460.0000	977.0000	2210.0000	1430.0000
Selenium	< 0.2500	< 0.2500	< 0.2500	< 0.2500	< 0.2500	< 0.2500	< 0.2500	< 0.2500
Silver	1.1200**	< 0.5890	< 0.5890	< 0.5890	0.7930**	< 0.5890	1.9900**	< 0.5890
Sodium	317.0000	346.0000	1760.0000**	320.0000	574.0000	435.0000	692.0000	784.0000
Thallium	< 6.6200	< 6.6200	< 6.6200	< 6.6200	< 6.6200	< 6.6200	< 6.6200	< 6.6200
Vanadium	9.1900	13.5000	14.7000	16.1000	13.3000	13.2000	9.6600	17.6000
Zinc	963.0000**	303.0000**	19.6000	49.0000	17000.0000**	20.0000	22000.0000**	124.0000**

Notes: ** = [illegible] is above the background concentration for the depth shown, < = N[illegible]ected at the value shown, NA = Not analyzed

TOOELE AD-NORTH AREA: , NO. 1C - TRASH BURN PITS
SOIL ANALYTICAL RESULTS FOR METALS

Sample ID	EP-01-105-DUP	EP-01-106	EP-01-106	EP-01-107	EP-01-107	EP-01-108	EP-01-108	EP-01-109
Lab ID	OIL1*341	OIL1*211	OIL1*212	OIL1*213	OIL1*214	OIL1*215	OIL1*216	OIL1*297
Date Sampled	08/07/92	08/07/92	08/07/92	08/07/92	08/07/92	08/07/92	08/07/92	08/08/92
Depth (ft)	7.000 ft	6.000 ft	8.000 ft	1.000 ft	5.000 ft	5.000 ft	7.000 ft	4.000 ft
Metals and Cyanide (ug/g)								
Aluminum	4780.0000	5070.0000	2880.0000	7330.0000	4280.0000	17000.0000	3680.0000	11600.0000
Antimony	< 7.1400	< 7.1400	< 7.1400	< 7.1400	< 7.1400	10.4000**	< 7.1400	< 7.1400
Arsenic	8.9200	7.2400	9.6700	2.3200	8.1800	0.8770	9.2900	0.8760
Barium	103.0000	142.0000	80.2000	300.0000**	89.9000	606.0000**	95.8000	13000.0000**
Beryllium	< 0.5000	< 0.5000	< 0.5000	< 0.5000	< 0.5000	0.7660	< 0.5000	< 0.5000
Cadmium	< 0.7000	18.8000**	< 0.7000	2.5200**	< 0.7000	72.9000**	< 0.7000	5.9500**
Calcium	35900.0000	42000.0000	97000.0000**	14000.0000	32900.0000	28600.0000	28800.0000	32000.0000
Chromium	6.4700	13.1000	< 4.0500	13.1000	5.8200	48.0000**	5.7000	13.5000
Cobalt	3.9400	4.1600	2.4800	4.1200	3.1400	7.1200**	3.2800	5.2900
Copper	12.8000	21.8000	5.3600	44.6000**	5.3000	281.0000**	7.7500	54.5000**
Cyanide	< 0.9200	< 0.9200	< 0.9200	< 0.9200	< 0.9200	< 0.9200	< 0.9200	< 0.9200
Iron	7870.0000	11700.0000	6060.0000	15200.0000	6550.0000	13400.0000	7000.0000	8270.0000
Lead	12.0000	597.0000**	10.8000	85.5000**	8.2400	691.0000**	9.9600	71.4000**
Magnesium	8700.0000	5360.0000	5180.0000	5290.0000	7220.0000	8020.0000	5830.0000	26200.0000**
Manganese	173.0000	319.0000	128.0000	412.0000	159.0000	452.0000	196.0000	205.0000
Mercury	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500
Nickel	7.9100	9.4000	5.6600	11.8000	7.3100	25.6000**	8.1400	11.8000
Potassium	1550.0000	2260.0000	972.0000	3320.0000	1350.0000	3480.0000	1060.0000	2060.0000
Selenium	< 0.2500	< 0.2500	< 0.2500	< 0.2500	< 0.2500	< 0.2500	< 0.2500	< 0.2500
Silver	< 0.5890	< 0.5890	< 0.5890	2.6800**	< 0.5890	28.0000**	< 0.5890	< 0.5890
Sodium	814.0000	1000.0000	913.0000	410.0000	497.0000	10200.0000**	604.0000	1680.0000**
Thallium	< 6.6200	< 6.6200	< 6.6200	< 6.6200	< 6.6200	< 6.6200	< 6.6200	8.1800
Vanadium	19.0000	13.0000	13.0000	12.3000	14.5000	47.7000**	15.6000	17.8000
Zinc	184.0000**	424.0000**	19.4000	507.0000**	19.6000	1760.0000**	23.5000	1790.0000**

Notes: ** = Value is above the background concentration for the depth shown, < = Not detected at the value shown, NA = Not analyzed

TOOELE AD-NORTH AREA: SWMU NO. 1C - TRASH BURN PITS
SOIL ANALYTICAL RESULTS FOR METALS

Sample ID	EP-01-109	EP-01-110	EP-01-110	EP-01-111	EP-01-111	EP-01-111-DUP	EP-01-112	EP-01-112
Lab ID	OIL1*298	OIL1*299	OIL1*300	OIL1*301	OIL1*302	OIL1*349	OIL1*303	OIL1*304
Date Sampled	08/08/92	08/08/92	08/08/92	08/08/92	08/08/92	08/08/92	08/09/92	08/09/92
Depth (ft)	6.500 ft	0.500 ft	5.000 ft	3.500 ft	5.500 ft	5.500 ft	3.500 ft	5.500 ft
Metals and Cyanide (ug/g)								
Aluminum	3500.0000	11400.0000	4980.0000	6680.0000	4300.0000	3060.0000	9210.0000	5410.0000
Antimony	< 7.1400	< 7.1400	< 7.1400	< 7.1400	< 7.1400	< 7.1400	10.2000**	< 7.1400
Arsenic	17.0000	1.0000	4.7800	3.9300	10.5000	14.0000	9.0600	7.5400
Barium	126.0000	160.0000	67.1000	134.0000	97.3000	101.0000	661.0000**	115.0000
Beryllium	< 0.5000	0.8830	< 0.5000	0.7930	< 0.5000	< 0.5000	1.3700	< 0.5000
Cadmium	< 0.7000	1.1700**	< 0.7000	6.0200**	< 0.7000	< 0.7000	1.6400**	< 0.7000
Calcium	26800.0000	17500.0000	5090.0000	24900.0000	25800.0000	25800.0000	18800.0000	36300.0000
Chromium	6.1000	14.8000	7.3000	16.1000	7.1900	5.8300	31.7000**	8.3000
Cobalt	2.6000	4.9100	3.3900	4.5900	2.8400	2.8400	9.1000**	3.2900
Copper	5.9900	28.2000**	6.2600	49.8000**	6.1100	5.8900	78.4000**	12.2000
Cyanide	< 0.9200	< 0.9200	< 0.9200	< 0.9200	< 0.9200	< 0.9200	< 0.9200	< 0.9200
Iron	7660.0000	13000.0000	7380.0000	13100.0000	7390.0000	6510.0000	42200.0000**	8350.0000
Lead	9.4000	23.0000	9.0600	103.0000**	7.2600	8.3900	928.0000**	23.6000
Magnesium	6660.0000	4580.0000	2460.0000	5690.0000	6070.0000	5620.0000	6460.0000	6340.0000
Manganese	109.0000	416.0000	156.0000	299.0000	113.0000	105.0000	509.0000	134.0000
Mercury	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500
Nickel	6.3800	11.7000	7.6900	17.1000**	6.7800	6.3600	32.9000**	8.3600
Potassium	883.0000	4020.0000	928.0000	2480.0000	1100.0000	848.0000	3840.0000	1370.0000
Selenium	< 0.2500	< 0.2500	< 0.2500	< 0.2500	< 0.2500	< 0.2500	< 0.2500	< 0.2500
Silver	< 0.5890	2.5400**	< 0.5890	3.8900**	< 0.5890	< 0.5890	1.1900**	< 0.5890
Sodium	1230.0000	310.0000	1040.0000	755.0000	409.0000	375.0000	2130.0000**	1200.0000
Thallium	< 6.6200	< 6.6200	< 6.6200	< 6.6200	< 6.6200	< 6.6200	8.3500	< 6.6200
Vanadium	21.3000	16.9000	13.5000	14.1000	16.7000	14.7000	14.9000	18.2000
Zinc	23.6000	74.4000	20.0000	370.0000**	23.2000	20.4000	502.0000**	36.9000

Notes: ** = is above the background concentration for the depth shown, < = ected at the value shown, NA = Not analyzed

TOOELE AD-NORTH AREA: . .U NO. 1C - TRASH BURN PITS
SOIL ANALYTICAL RESULTS FOR METALS

Sample ID	EP-01-113	EP-01-113	EP-01-114	EP-01-114	EP-01-115	EP-01-115	EP-01-115-DUP	EP-01-116
Lab ID	OIL1*305	OIL1*306	OIL1*307	OIL1*308	OIL1*309	OIL1*310	OIL1*353	OIL1*311
Date Sampled	08/09/92	08/09/92	08/09/92	08/09/92	08/10/92	08/10/92	08/10/92	08/10/92
Depth (ft)	6.500 ft	8.000 ft	4.000 ft	11.500 ft	4.500 ft	9.500 ft	9.500 ft	3.500 ft
Metals and Cyanide (ug/g)								
Aluminum	13400.0000	4910.0000	16500.0000	4380.0000	7000.0000	3620.0000	3340.0000	9420.0000
Antimony	< 7.1400	< 7.1400	26.0000**	< 7.1400	< 36.0000	< 7.1400	< 7.1400	< 7.1400
Arsenic	5.5900	6.0500	8.7400	9.9100**	12.0000	6.1400	8.4800	5.9400
Barium	639.0000**	79.1000	531.0000**	123.0000	144.0000	81.3000	81.7000	152.0000
Beryllium	0.8020	< 0.5000	1.8000**	< 0.5000	8.5000**	< 0.5000	< 0.5000	1.2200
Cadmium	2.3600**	< 0.7000	29.5000**	< 0.7000	< 3.5000	< 0.7000	< 0.7000	1.3800**
Calcium	13400.0000	30200.0000	16200.0000	26000.0000	12600.0000	22400.0000	22900.0000	15700.0000
Chromium	30.0000**	6.9100	250.0000**	7.1100	120.0000**	6.2500	5.5900	14.0000
Cobalt	8.4300**	2.9200	23.0000**	3.2200	30.0000**	2.9300	2.9300	4.4300
Copper	126.0000**	5.6600	468.0000**	6.4500	210.0000**	18.5000	6.4200	284.0000**
Cyanide	< 0.9200	< 0.9200	< 0.9200	< 0.9200	< 0.9200	< 0.9200	< 0.9200	< 0.9200
Iron	18600.0000	7120.0000	77000.0000**	7110.0000	240000.0000**	6890.0000	5800.0000	24300.0000**
Lead	314.0000**	8.4400	4400.0000**	7.6800	310.0000**	7.2400	7.6200	1060.0000**
Magnesium	5220.0000	6840.0000	4930.0000	5390.0000	3200.0000	4560.0000	4530.0000	5230.0000
Manganese	454.0000	145.0000	810.0000**	105.0000	2400.0000**	105.0000	92.1000	427.0000
Mercury	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500
Nickel	25.0000**	7.5900	47.8000**	6.6700	270.0000**	8.0300	5.9900	12.9000
Potassium	3210.0000	1220.0000	2540.0000	2700.0000	1420.0000	1950.0000	1800.0000	3400.0000
Selenium	< 0.2500	< 0.2500	< 0.2500	< 0.2500	< 0.2500	< 0.2500	< 0.2500	0.4210**
Silver	8.6100**	< 0.5890	1.7200**	< 0.5890	4.5000**	< 0.5890	< 0.5890	0.6380
Sodium	1850.0000**	948.0000	2140.0000**	1260.0000	1860.0000**	478.0000	482.0000	3540.0000**
Thallium	< 6.6200	< 6.6200	29.0000**	< 6.6200	65.0000**	< 6.6200	< 6.6200	< 6.6200
Vanadium	23.2000	15.6000	16.8000	19.3000	< 17.0000	14.4000	13.5000	12.9000
Zinc	1910.0000**	24.6000	4700.0000**	31.9000	800.0000**	23.6000	21.8000	564.0000**

6-6-6

Notes: ** = Value is above the background concentration for the depth shown, < = Not detected at the value shown, NA = Not analyzed

TOOELE AD-NORTH AREA: SWMU NO. 1C - TRASH BURN PITS
SOIL ANALYTICAL RESULTS FOR METALS

Sample ID	EP-01-116	EP-01-117	EP-01-117	EP-01-118	EP-01-118	EP-01-119	EP-01-119	EP-01-120
Lab ID	OIL1*312	OIL1*313	OIL1*314	OIL1*315	OIL1*316	OIL1*317	OIL1*318	OIL1*319
Date Sampled	08/10/92	08/10/92	08/10/92	08/10/92	08/10/92	08/11/92	08/11/92	08/11/92
Depth (ft)	9.500 ft	0.500 ft	5.500 ft	0.000 ft	5.500 ft	0.000 ft	5.500 ft	0.000 ft
Metals and Cyanide (ug/g)								
Aluminum	3790.0000	10100.0000	4340.0000	8630.0000	4660.0000	7390.0000	2290.0000	5820.0000
Antimony	< 7.1400	< 7.1400	< 7.1400	11.7000**	< 7.1400	< 7.1400	< 7.1400	< 7.1400
Arsenic	4.8100	0.8900	13.0000	1.3100	3.0200	3.8000	2.6700	4.2700
Barium	84.6000	183.0000	68.4000	162.0000	67.6000	129.0000	52.0000	111.0000
Beryllium	< 0.5000	0.8890	< 0.5000	0.8370	< 0.5000	0.8340	< 0.5000	0.5730
Cadmium	< 0.7000	24.0000**	< 0.7000	44.5000**	< 0.7000	< 0.7000	< 0.7000	< 0.7000
Calcium	20600.0000	21600.0000	25600.0000	4840.0000	52700.0000	21900.0000	24400.0000	39300.0000
Chromium	6.8200	18.5000	6.4400	16.6000	7.1100	8.8000	< 4.0500	7.8900
Cobalt	2.1800	5.4100	2.7200	3.9600	3.4800	3.7900	< 1.4200	3.0600
Copper	6.4600	69.0000**	6.2500	55.9000**	4.9400	15.4000	6.9800	9.5500
Cyanide	< 0.9200	< 0.9200	< 0.9200	< 0.9200	< 0.9200	< 0.9200	< 0.9200	< 0.9200
Iron	7080.0000	9790.0000	6550.0000	9900.0000	7350.0000	8850.0000	5560.0000	7480.0000
Lead	8.8000	168.0000**	6.8700	223.0000**	8.6400	37.5000	25.7000	22.8000
Magnesium	4450.0000	7340.0000	6220.0000	3990.0000	6430.0000	6270.0000	3360.0000	6640.0000
Manganese	70.8000	346.0000	90.4000	367.0000	128.0000	380.0000	123.0000	211.0000
Mercury	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500
Nickel	6.5100	17.5000**	5.5500	12.4000	9.2500	9.4100	3.9500	7.3200
Potassium	1320.0000	4390.0000	1060.0000	2950.0000	1500.0000	3310.0000	863.0000	2590.0000
Selenium	0.4040**	< 0.2500	< 0.2500	< 0.2500	< 0.2500	0.6060**	0.4940**	0.7850**
Silver	< 0.5890	11.0000**	< 0.5890	70.0000**	< 0.5890	< 0.5890	< 0.5890	< 0.5890
Sodium	2170.0000**	631.0000	1750.0000**	332.0000	363.0000	259.0000	205.0000	281.0000
Thallium	< 6.6200	< 6.6200	< 6.6200	< 6.6200	< 6.6200	< 6.6200	< 6.6200	< 6.6200
Vanadium	12.0000	24.7000	17.3000	18.3000	13.5000	11.2000	5.7700	10.7000
Zinc	26.9000	208.0000**	20.3000	201.0000**	24.4000	49.0000	21.1000	32.7000

Notes: ** = is above the background concentration for the depth shown, < = N ected at the value shown, NA = Not analyzed

TOOELE AD-NORTH AREA. .U NO. 1C - TRASH BURN PITS
SOIL ANALYTICAL RESULTS FOR METALS

Sample ID	EP-01-120	EP-01-121	EP-01-121
Lab ID	OIL1*320	OIL1*321	OIL1*322
Date Sampled	08/11/92	08/11/92	08/11/92
Depth (ft)	5.000 ft	0.000 ft	9.000 ft
Metals and Cyanide (ug/g)			
Aluminum	4380.0000	5290.0000	1600.0000
Antimony	< 7.1400	< 7.1400	< 7.1400
Arsenic	9.0500	4.9200	2.8400
Barium	96.8000	117.0000	36.3000
Beryllium	< 0.5000	< 0.5000	< 0.5000
Cadmium	< 0.7000	< 0.7000	< 0.7000
Calcium	37600.0000	30500.0000	15800.0000
Chromium	6.9000	8.4700	< 4.0500
Cobalt	2.4100	3.2100	< 1.4200
Copper	8.5300	6.9900	2.7500
Cyanide	< 0.9200	< 0.9200	< 0.9200
Iron	6470.0000	6590.0000	3160.0000
Lead	37.4000	11.0000	2.9900
Magnesium	6280.0000	5670.0000	3410.0000
Manganese	132.0000	127.0000	51.7000
Mercury	< 0.0500	< 0.0500	< 0.0500
Nickel	6.0800	7.5100	2.9800
Potassium	1630.0000	2200.0000	547.0000
Selenium	0.7260**	0.5740**	< 0.2500
Silver	< 0.5890	< 0.5890	< 0.5890
Sodium	301.0000	300.0000	241.0000
Thallium	< 6.6200	< 6.6200	< 6.6200
Vanadium	12.2000	13.4000	7.1900
Zinc	24.8000	26.6000	12.7000

Notes: ** = Value is above the background concentration for the depth shown, < = Not detected at the value shown, NA = Not analyzed

TOOELE AD-NORTH AREA: SWMU NO. 1C - TRASH BURN PITS
SOIL ANALYTICAL RESULTS FOR ORGANIC COMPOUNDS

Sample ID	SB-01-007	SB-01-007-DUP	SB-01-007	SB-01-007	SB-01-007	SB-01-007	SB-01-007	SB-01-007
Lab ID	OIL1*380	OIL1*394	OIL1*383	OIL1*381	OIL1*384	OIL1*382	OIL1*385	OIL1*386
Date Sampled	07/29/92	07/29/92	07/29/92	07/29/92	07/29/92	07/29/92	07/29/92	07/29/92
Depth (ft)	5.000 ft	5.000 ft	10.000 ft	20.000 ft	25.000 ft	35.000 ft	45.000 ft	60.000 ft
Volatile Organic Compounds (ug/g)								
Acetone	< 0.0170	< 0.0170	NA	< 0.0170	NA	< 0.0170	NA	NA
Chloroform	< 0.0009	< 0.0009	NA	< 0.0009	NA	< 0.0009	NA	NA
Hexane	NA	NA	NA	NA	NA	NA	NA	NA
Methylene chloride	< 0.0120	< 0.0120	NA	< 0.0120	NA	< 0.0120	NA	NA
Trichlorofluoromethane	< 0.0059	< 0.0059	NA	< 0.0059	NA	< 0.0059	NA	NA
Tetrachloroethene	< 0.0008	< 0.0008	NA	< 0.0008	NA	< 0.0008	NA	NA
Toluene	< 0.0008	< 0.0008	NA	< 0.0008	NA	< 0.0008	NA	NA
Semivolatile Organic Compounds (ug/g)								
1,2,4-Trichlorobenzene	< 0.0400	< 0.0400	NA	< 0.0400	NA	< 0.0400	NA	NA
Bis (2-ethylhexyl) phthalate	< 0.6200	< 0.6200	NA	< 0.6200	NA	< 0.6200	NA	NA
Hexachlorobenzene	< 0.0330	< 0.0330	NA	< 0.0330	NA	< 0.0330	NA	NA
Napthalene	< 0.0370	< 0.0370	NA	< 0.0370	NA	< 0.0370	NA	NA
Pyrene	< 0.0330	< 0.0330	NA	< 0.0330	NA	< 0.0330	NA	NA
Pesticides (ug/g)	ND	ND	NA	ND	NA	ND	NA	NA
Herbicides (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA
Total Petroleum Hydrocarbons (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA
Explosives (ug/g)								
1,3,5-Trinitrobenzene	< 0.4880	< 0.4880	< 0.4880	< 0.4880	< 0.4880	< 0.4880	< 0.4880	< 0.4880
2,4,6-Trinitrotoluene	< 0.4560	< 0.4560	< 0.4560	< 0.4560	< 0.4560	< 0.4560	< 0.4560	< 0.4560
2,4-Dinitrotoluene	< 0.1400	< 0.1400	< 0.4240	< 0.1400	< 0.4240	< 0.1400	< 0.4240	< 0.4240
2,6-Dinitrotoluene	< 0.0850	< 0.0850	< 0.5240	< 0.0850	< 0.5240	< 0.0850	< 0.5240	< 0.5240
Cyclonite (RDX)	< 0.5870	< 0.5870	< 0.5870	< 0.5870	< 0.5870	< 0.5870	< 0.5870	< 0.5870
Cyclotetramethylenetetranitramine (HMX)	< 0.6660	< 0.6660	< 0.6660	< 0.6660	< 0.6660	< 0.6660	< 0.6660	< 0.6660
Dioxins/Furans (ug/g)								
Heptachlorodibenzodioxin - non specific	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorodibenzodioxin - non specific	NA	NA	NA	NA	NA	NA	NA	NA
Octachlorodibenzodioxin - non specific	NA	NA	NA	NA	NA	NA	NA	NA

Notes: ** = e was detected at the concentration shown < = Not detected at th shown, NA = Not analyzed

TOOELE AD-NORTH AREA: [illegible] O. 1C - TRASH BURN PITS
SOIL ANALYTICAL RESULTS FOR ORGANIC COMPOUNDS

Sample ID	SB-01-008	SB-01-008	SB-01-008	SB-01-008	SB-01-008	SB-01-008	SB-01-008	EP-01-102
Lab ID	OIL1*387	OIL1*388	OIL1*389	OIL1*390	OIL1*391	OIL1*392	OIL1*393	OIL1*203
Date Sampled	07/28/92	07/28/92	07/28/92	07/28/92	07/28/92	07/28/92	07/29/92	08/06/92
Depth (ft)	5.000 ft	15.000 ft	25.000 ft	35.000 ft	55.000 ft	60.000 ft	100.000 ft	3.500 ft
Volatile Organic Compounds (ug/g)								
Acetone	< 0.0170	< 0.0170	NA	0.0229**	NA	NA	NA	< 0.0170
Chloroform	< 0.0009	< 0.0009	NA	< 0.0009	NA	NA	NA	< 0.0009
Hexane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
Methylene chloride	< 0.0120	< 0.0120	NA	< 0.0120	NA	NA	NA	< 0.0120
Tetrachloroethene	< 0.0008	< 0.0008	NA	< 0.0008	NA	NA	NA	< 0.0008
Toluene	< 0.0008	< 0.0008	NA	0.0016**	NA	NA	NA	< 0.0008
Trichlorofluoromethane	< 0.0059	< 0.0059	NA	< 0.0059	NA	NA	NA	< 0.0059
Semivolatile Organic Compounds (ug/g)								
1,2,4-Trichlorobenzene	< 0.0400	< 0.0400	NA	< 0.0400	NA	NA	NA	< 1.0000
Bis (2-ethylhexyl) phthalate	< 0.6200	< 0.6200	NA	< 0.6200	NA	NA	NA	< 20.0000
Hexachlorobenzene	< 0.0330	< 0.0330	NA	< 0.0330	NA	NA	NA	< 0.8000
Napthalene	< 0.0370	< 0.0370	NA	< 0.0370	NA	NA	NA	< 0.9000
Pyrene	< 0.0330	< 0.0330	NA	< 0.0330	NA	NA	NA	< 0.8000
5-6-10								
Pesticides (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA
Herbicides (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA
Total Petroleum Hydrocarbons (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA
Explosives (ug/g)								
1,3,5-Trinitrobenzene	< 0.4880	< 0.4880	< 0.4880	< 0.4880	< 0.4880	< 0.4880	< 0.4880	< 0.4880
2,4,6-Trinitrotoluene	< 0.4560	< 0.4560	< 0.4560	< 0.4560	< 0.4560	< 0.4560	< 0.4560	< 0.4560
2,4-Dinitrotoluene	< 0.1400	< 0.1400	< 0.4240	< 0.1400	< 0.4240	< 0.4240	< 0.4240	< 4.0000
2,6-Dinitrotoluene	< 0.0850	< 0.0850	< 0.5240	< 0.0850	< 0.5240	< 0.5240	< 0.5240	< 2.0000
Cyclonite (RDX)	< 0.5870	< 0.5870	< 0.5870	< 0.5870	< 0.5870	< 0.5870	< 0.5870	< 0.5870
Cyclotetramethylenetetranitramine (HMX)	< 0.6660	< 0.6660	< 0.6660	< 0.6660	< 0.6660	< 0.6660	< 0.6660	< 0.6660
Dioxins/Furans (ug/g)								
Heptachlorodibenzodioxin - non specific	NA	NA	NA	NA	NA	NA	NA	0.000100**
Hexachlorodibenzodioxin - non specific	NA	NA	NA	NA	NA	NA	NA	< 0.000027
Octachlorodibenzodioxin - non specific	NA	NA	NA	NA	NA	NA	NA	0.000300**

Notes: ** = Analyte was detected at the concentration shown < = Not detected at the value shown, NA = Not analyzed

TOOELE AD-NORTH AREA: SWMU NO. 1C - TRASH BURN PITS
SOIL ANALYTICAL RESULTS FOR ORGANIC COMPOUNDS

Sample ID	EP-01-102	EP-01-102-DUP	EP-01-103	EP-01-103	EP-01-104	EP-01-104	EP-01-105	EP-01-105
Lab ID	OIL1*204	OIL1*332	OIL1*205	OIL1*206	OIL1*207	OIL1*208	OIL1*209	OIL1*210
Date Sampled	08/06/92	08/06/92	08/06/92	08/06/92	08/06/92	08/06/92	08/07/92	08/07/92
Depth (ft)	9.500 ft	9.500 ft	0.000 ft	6.000 ft	3.000 ft	5.500 ft	5.000 ft	7.000 ft
Volatile Organic Compounds (ug/g)								
Acetone	< 0.0170	< 0.0170	< 0.0170	< 0.0170	< 0.0170	< 0.0170	< 0.0170	< 0.0170
Chloroform	< 0.0009	< 0.0009	< 0.0009	< 0.0009	< 0.0009	< 0.0009	< 0.0009	< 0.0009
Hexane	NA	NA	NA	NA	NA	NA	NA	NA
Methylene chloride	< 0.0120	< 0.0120	< 0.0120	< 0.0120	< 0.0120	< 0.0120	< 0.0120	< 0.0120
Trichlorofluoromethane	< 0.0059	< 0.0059	< 0.0059	< 0.0059	< 0.0059	< 0.0059	0.0100**	< 0.0059
Tetrachloroethene	< 0.0008	< 0.0008	< 0.0008	< 0.0008	< 0.0008	< 0.0008	< 0.0008	< 0.0008
Toluene	< 0.0008	< 0.0008	< 0.0008	< 0.0008	< 0.0008	< 0.0008	< 0.0008	< 0.0008
Semivolatile Organic Compounds (ug/g)								
1,2,4-Trichlorobenzene	NA	NA	NA	NA	NA	NA	0.0690**	NA
Bis (2-ethylhexyl) phthalate	NA	NA	NA	NA	NA	NA	< 0.6200	NA
Hexachlorobenzene	NA	NA	NA	NA	NA	NA	0.0860**	NA
Napthalene	NA	NA	NA	NA	NA	NA	0.0780**	NA
Pyrene	NA	NA	NA	NA	NA	NA	< 0.0330	NA
Pesticides (ug/g)	NA	NA	NA	NA	NA	NA	ND	NA
Herbicides (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA
Total Petroleum Hydrocarbons (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA
Explosives (ug/g)								
1,3,5-Trinitrobenzene	< 0.4880	< 0.4880	< 0.4880	< 0.4880	< 0.4880	< 0.4880	< 0.4880	< 0.4880
2,4,6-Trinitrotoluene	7.8400**	2.1700**	< 0.4560	< 0.4560	< 0.4560	< 0.4560	< 0.4560	< 0.4560
2,4-Dinitrotoluene	< 0.4240	< 0.4240	< 0.4240	< 0.4240	< 0.4240	< 0.4240	< 0.1400	< 0.4240
2,6-Dinitrotoluene	< 0.5240	< 0.5240	< 0.5240	< 0.5240	< 0.5240	< 0.5240	< 0.0850	< 0.5240
Cyclonite (RDX)	< 0.5870	< 0.5870	< 0.5870	< 0.5870	< 0.5870	< 0.5870	0.8300**	< 0.5870
Cyclotetramethylenetetranitramine (HMX)	< 0.6660	< 0.6660	< 0.6660	< 0.6660	< 0.6660	< 0.6660	< 0.6660	< 0.6660
Dioxins/Furans (ug/g)								
Heptachlorodibenzodioxin - non specific	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorodibenzodioxin - non specific	NA	NA	NA	NA	NA	NA	NA	NA
Octachlorodibenzodioxin - non specific	NA	NA	NA	NA	NA	NA	NA	NA

Notes: ** = te was detected at the concentration shown < = Not detected at the e shown, NA = Not analyzed

TOOELE AD-NORTH AREA , NO. 1C - TRASH BURN PITS
SOIL ANALYTICAL RESULTS FOR ORGANIC COMPOUNDS

Sample ID	EP-01-105-DUP	EP-01-106	EP-01-106	EP-01-107	EP-01-107	EP-01-108	EP-01-108	EP-01-109
Lab ID	OIL1*341	OIL1*211	OIL1*212	OIL1*213	OIL1*214	OIL1*215	OIL1*216	OIL1*297
Date Sampled	08/07/92	08/07/92	08/07/92	08/07/92	08/07/92	08/07/92	08/07/92	08/08/92
Depth (ft)	7.000 ft	6.000 ft	8.000 ft	1.000 ft	5.000 ft	5.000 ft	7.000 ft	4.000 ft
Volatile Organic Compounds (ug/g)								
Acetone	NA	< 0.0170	< 0.0170	< 0.0170	< 0.0170	< 0.0170	< 0.0170	0.0180**
Chloroform	NA	< 0.0009	< 0.0009	< 0.0009	< 0.0009	0.0012**	< 0.0009	< 0.0009
Hexane	NA	NA	NA	NA	NA	0.0086**	NA	NA
Methylene chloride	NA	< 0.0120	< 0.0120	< 0.0120	< 0.0120	0.0200**	< 0.0120	< 0.0120
Trichlorofluoromethane	NA	0.0088**	0.0088**	0.0078**	0.0057**	0.0360**	0.0081**	< 0.0059
Tetrachloroethene	NA	< 0.0008	< 0.0008	< 0.0008	< 0.0008	< 0.0008	< 0.0008	< 0.0008
Toluene	NA	< 0.0008	< 0.0008	0.0012**	< 0.0008	< 0.0008	< 0.0008	< 0.0008
Semivolatile Organic Compounds (ug/g)								
1,2,4-Trichlorobenzene	NA	NA	NA	NA	NA	NA	NA	NA
Bis (2-ethylhexyl) phthalate	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorobenzene	NA	NA	NA	NA	NA	NA	NA	NA
Napthalene	NA	NA	NA	NA	NA	NA	NA	NA
Pyrene	NA	NA	NA	NA	NA	NA	NA	NA
Pesticides (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA
Herbicides (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA
Total Petroleum Hydrocarbons (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA
Explosives (ug/g)								
1,3,5-Trinitrobenzene	< 0.4880	< 0.4880	< 0.4880	< 0.4880	< 0.4880	< 0.4880	< 0.4880	< 0.4880
2,4,6-Trinitrotoluene	< 0.4560	< 0.4560	< 0.4560	< 0.4560	< 0.4560	< 0.4560	< 0.4560	< 0.4560
2,4-Dinitrotoluene	< 0.4240	< 0.4240	< 0.4240	< 0.4240	< 0.4240	< 0.4240	< 0.4240	< 0.4240
2,6-Dinitrotoluene	< 0.5240	< 0.5240	< 0.5240	< 0.5240	< 0.5240	< 0.5240	< 0.5240	< 0.5240
Cyclonite (RDX)	< 0.5870	< 0.5870	< 0.5870	< 0.5870	< 0.5870	< 0.5870	< 0.5870	< 0.5870
Cyclotetramethylenetetranitramine (HMX)	< 0.6660	< 0.6660	< 0.6660	< 0.6660	< 0.6660	< 0.6660	< 0.6660	< 0.6660
Dioxins/Furans (ug/g)								
Heptachlorodibenzodioxin - non specific	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorodibenzodioxin - non specific	NA	NA	NA	NA	NA	NA	NA	NA
Octachlorodibenzodioxin - non specific	NA	NA	NA	NA	NA	NA	NA	NA

Notes: ** = Analyte was detected at the concentration shown < = Not detected at the value shown, NA = Not analyzed

TOOELE AD-NORTH AREA: SWMU NO. 1C - TRASH BURN PITS
SOIL ANALYTICAL RESULTS FOR ORGANIC COMPOUNDS

Sample ID	EP-01-109	EP-01-110	EP-01-110	EP-01-111	EP-01-111	EP-01-111-DUP	EP-01-112	EP-01-112
Lab ID	OIL1*298	OIL1*299	OIL1*300	OIL1*301	OIL1*302	OIL1*349	OIL1*303	OIL1*304
Date Sampled	08/08/92	08/08/92	08/08/92	08/08/92	08/08/92	08/08/92	08/09/92	08/09/92
Depth (ft)	6.500 ft	0.500 ft	5.000 ft	3.500 ft	5.500 ft	5.500 ft	3.500 ft	5.500 ft
Volatile Organic Compounds (ug/g)								
Acetone	< 0.0170	< 0.0170	< 0.0170	< 0.0170	< 0.0170	NA	< 0.0170	< 0.0170
Chloroform	< 0.0009	< 0.0009	< 0.0009	< 0.0009	< 0.0009	NA	< 0.0009	0.0012**
Hexane	NA	NA	NA	NA	NA	NA	NA	NA
Methylene chloride	< 0.0120	< 0.0120	< 0.0120	< 0.0120	< 0.0120	NA	< 0.0120	< 0.0120
Trichlorofluoromethane	< 0.0059	< 0.0059	< 0.0059	< 0.0059	< 0.0059	NA	< 0.0059	< 0.0059
Tetrachloroethene	< 0.0008	< 0.0008	< 0.0008	< 0.0008	< 0.0008	NA	< 0.0008	< 0.0008
Toluene	< 0.0008	< 0.0008	< 0.0008	0.0009**	< 0.0008	NA	< 0.0008	< 0.0008
Semivolatile Organic Compounds (ug/g)								
1,2,4-Trichlorobenzene	NA	NA	NA	< 0.0400	NA	NA	< 0.0400	NA
Bis (2-ethylhexyl) phthalate	NA	NA	NA	< 0.6200	NA	NA	0.7100**	NA
Hexachlorobenzene	NA	NA	NA	< 0.0330	NA	NA	< 0.0330	NA
Napthalene	NA	NA	NA	< 0.0370	NA	NA	0.0600**	NA
Pyrene	NA	NA	NA	< 0.0330	NA	NA	0.0490**	NA
Pesticides (ug/g)	NA	NA	NA	ND	NA	NA	ND	NA
Herbicides (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA
Total Petroleum Hydrocarbons (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA
Explosives (ug/g)								
1,3,5-Trinitrobenzene	< 0.4880	< 0.4880	< 0.4880	< 0.4880	< 0.4880	< 0.4880	< 0.4880	< 0.4880
2,4,6-Trinitrotoluene	< 0.4560	< 0.4560	< 0.4560	< 0.4560	< 0.4560	< 0.4560	< 0.4560	< 0.4560
2,4-Dinitrotoluene	< 0.4240	< 0.4240	< 0.4240	< 0.1400	< 0.4240	< 0.4240	< 0.1400	< 0.4240
2,6-Dinitrotoluene	< 0.5240	< 0.5240	< 0.5240	< 0.0850	< 0.5240	< 0.5240	< 0.0850	< 0.5240
Cyclonite (RDX)	< 0.5870	< 0.5870	< 0.5870	< 0.5870	< 0.5870	< 0.5870	< 0.5870	< 0.5870
Cyclotetramethylenetetranitramine (HMX)	< 0.6660	< 0.6660	< 0.6660	< 0.6660	< 0.6660	< 0.6660	< 0.6660	< 0.6660
Dioxins/Furans (ug/g)								
Heptachlorodibenzodioxin - non specific	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorodibenzodioxin - non specific	NA	NA	NA	NA	NA	NA	NA	NA
Octachlorodibenzodioxin - non specific	NA	NA	NA	NA	NA	NA	NA	NA

Notes: ** = [illegible]te was detected at the concentration shown < = Not detected at the [illegible] shown, NA = Not analyzed

TOOELE AD-NORTH AREA: ! IO. 1C - TRASH BURN PITS
SOIL ANALYTICAL RESU. FOR ORGANIC COMPOUNDS

Sample ID	EP-01-113	EP-01-113	EP-01-114	EP-01-114	EP-01-115	EP-01-115	EP-01-115	EP-01-115-DUP
Lab ID	OIL1*305	OIL1*306	OIL1*307	OIL1*308	OIL1*350	OIL1*309	OIL1*310	OIL1*353
Date Sampled	08/09/92	08/09/92	08/09/92	08/09/92	08/10/92	08/10/92	08/10/92	08/10/92
Depth (ft)	6.500 ft	8.000 ft	4.000 ft	11.500 ft	3.500 ft	4.500 ft	9.500 ft	9.500 ft
Volatile Organic Compounds (ug/g)								
Acetone	NA	NA	NA	NA	NA	< 0.0170	< 0.0170	NA
Chloroform	NA	NA	NA	NA	NA	< 0.0009	< 0.0009	NA
Hexane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
Methylene chloride	NA	NA	NA	NA	NA	< 0.0120	< 0.0120	NA
Tetrachloroethene	NA	NA	NA	NA	NA	< 0.0008	< 0.0008	NA
Toluene	NA	NA	NA	NA	NA	< 0.0008	< 0.0008	NA
Trichlorofluoromethane	NA	NA	NA	NA	NA	< 0.0059	< 0.0059	NA
Semivolatile Organic Compounds (ug/g)								
1,2,4-Trichlorobenzene	NA	NA	NA	NA	NA	NA	NA	NA
Bis (2-ethylhexyl) phthalate	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorobenzene	NA	NA	NA	NA	NA	NA	NA	NA
Napthalene	NA	NA	NA	NA	NA	NA	NA	NA
Pyrene	NA	NA	NA	NA	NA	NA	NA	NA
Pesticides (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA
Herbicides (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA
Total Petroleum Hydrocarbons (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA
Explosives (ug/g)								
1,3,5-Trinitrobenzene	< 0.4880	< 0.4880	< 0.4880	< 0.4880	NA	1.6000**	< 0.4880	< 0.4880
2,4,6-Trinitrotoluene	< 0.4560	< 0.4560	< 0.4560	< 0.4560	NA	3.2700**	< 0.4560	< 0.4560
2,4-Dinitrotoluene	< 0.4240	< 0.4240	< 0.4240	< 0.4240	NA	12.5000**	< 0.4240	< 0.4240
2,6-Dinitrotoluene	< 0.5240	< 0.5240	< 0.5240	< 0.5240	NA	1.9300**	< 0.5240	< 0.5240
Cyclonite (RDX)	< 0.5870	< 0.5870	45.0000**	< 0.5870	NA	< 0.5870	< 0.5870	< 0.5870
Cyclotetramethylenetetranitramine (HMX)	< 0.6660	< 0.6660	5400.0000**	< 0.6660	NA	< 0.6660	< 0.6660	< 0.6660
Dioxins/Furans (ug/g)								
Heptachlorodibenzodioxin - non specific	NA	NA	NA	NA	0.000600**	NA	NA	NA
Hexachlorodibenzodioxin - non specific	NA	NA	NA	NA	0.000100**	NA	NA	NA
Octachlorodibenzodioxin - non specific	NA	NA	NA	NA	0.001800**	NA	NA	NA

Notes: ** = Analyte was detected at the concentration shown < = Not detected at the value shown, NA = Not analyzed

TOOELE AD-NORTH AREA: SWMU NO. 1C - TRASH BURN PITS
SOIL ANALYTICAL RESULTS FOR ORGANIC COMPOUNDS

Sample ID	EP-01-116	EP-01-116	EP-01-117	EP-01-117	EP-01-118	EP-01-118	EP-01-119	EP-01-119
Lab ID	OIL1*311	OIL1*312	OIL1*313	OIL1*314	OIL1*315	OIL1*316	OIL1*317	OIL1*318
Date Sampled	08/10/92	08/10/92	08/10/92	08/10/92	08/10/92	08/10/92	08/11/92	08/11/92
Depth (ft)	3.500 ft	9.500 ft	0.500 ft	5.500 ft	0.000 ft	5.500 ft	0.000 ft	5.500 ft
Volatile Organic Compounds (ug/g)								
Acetone	< 0.0170	< 0.0170	< 0.0170	< 0.0170	< 0.0170	< 0.0170	< 0.0170	0.0330**
Chloroform	< 0.0009	< 0.0009	< 0.0009	< 0.0009	< 0.0009	< 0.0009	< 0.0009	< 0.0009
Hexane	NA	NA	NA	NA	NA	NA	NA	NA
Methylene chloride	< 0.0120	< 0.0120	< 0.0120	< 0.0120	< 0.0120	< 0.0120	< 0.0120	< 0.0120
Trichlorofluoromethane	< 0.0059	< 0.0059	< 0.0059	< 0.0059	< 0.0059	< 0.0059	< 0.0059	< 0.0059
Tetrachloroethene	< 0.0008	< 0.0008	0.0013**	< 0.0008	< 0.0008	< 0.0008	0.0022**	< 0.0008
Toluene	< 0.0008	< 0.0008	< 0.0008	< 0.0008	< 0.0008	< 0.0008	< 0.0008	< 0.0008
Semivolatile Organic Compounds (ug/g)								
1,2,4-Trichlorobenzene	NA	NA	NA	NA	NA	NA	NA	NA
Bis (2-ethylhexyl) phthalate	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorobenzene	NA	NA	NA	NA	NA	NA	NA	NA
Napthalene	NA	NA	NA	NA	NA	NA	NA	NA
Pyrene	NA	NA	NA	NA	NA	NA	NA	NA
Pesticides (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA
Herbicides (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA
Total Petroleum Hydrocarbons (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA
Explosives (ug/g)								
1,3,5-Trinitrobenzene	< 0.4880	< 0.4880	< 0.4880	< 0.4880	< 0.4880	< 0.4880	< 0.4880	< 0.4880
2,4,6-Trinitrotoluene	2.0500**	< 0.4560	< 0.4560	< 0.4560	< 0.4560	< 0.4560	< 0.4560	< 0.4560
2,4-Dinitrotoluene	< 0.4240	< 0.4240	< 0.4240	< 0.4240	< 0.4240	< 0.4240	< 0.4240	< 0.4240
2,6-Dinitrotoluene	< 0.5240	< 0.5240	< 0.5240	< 0.5240	< 0.5240	< 0.5240	< 0.5240	< 0.5240
Cyclonite (RDX)	< 0.5870	< 0.5870	47.0000**	< 0.5870	38.0000**	< 0.5870	< 0.5870	< 0.5870
Cyclotetramethylenetetranitramine (HMX)	1.5800**	< 0.6660	9.2100**	< 0.6660	1.6400**	< 0.6660	< 0.6660	< 0.6660
Dioxins/Furans (ug/g)								
Heptachlorodibenzodioxin - non specific	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorodibenzodioxin - non specific	NA	NA	NA	NA	NA	NA	NA	NA
Octachlorodibenzodioxin - non specific	NA	NA	NA	NA	NA	NA	NA	NA

Notes: ** e was detected at the concentration shown < = Not detected at the shown, NA = Not analyzed

TOOELE AD-NORTH AREA .U NO. 1C - TRASH BURN PITS
SOIL ANALYTICAL RESULTS FOR ORGANIC COMPOUNDS

Sample ID	EP-01-120	EP-01-120	EP-01-121	EP-01-121
Lab ID	OIL1*319	OIL1*320	OIL1*321	OIL1*322
Date Sampled	08/11/92	08/11/92	08/11/92	08/11/92
Depth (ft)	0.000 ft	5.000 ft	0.000 ft	9.000 ft
Volatile Organic Compounds (ug/g)				
Acetone	< 0.0170	< 0.0170	< 0.0170	< 0.0170
Chloroform	< 0.0009	< 0.0009	< 0.0009	< 0.0009
Hexane	NA	NA	NA	NA
Methylene chloride	< 0.0120	< 0.0120	< 0.0120	< 0.0120
Trichlorofluoromethane	< 0.0059	< 0.0059	< 0.0059	< 0.0059
Tetrachloroethene	< 0.0008	< 0.0008	< 0.0008	< 0.0008
Toluene	< 0.0008	< 0.0008	< 0.0008	< 0.0008
Semivolatile Organic Compounds (ug/g)				
1,2,4-Trichlorobenzene	NA	NA	NA	NA
Bis (2-ethylhexyl) phthalate	NA	NA	NA	NA
Hexachlorobenzene	NA	NA	NA	NA
Napthalene	NA	NA	NA	NA
Pyrene	NA	NA	NA	NA
Pesticides (ug/g)	NA	NA	NA	NA
Herbicides (ug/g)	NA	NA	NA	NA
Total Petroleum Hydrocarbons (ug/g)	NA	NA	NA	NA
Explosives (ug/g)				
1,3,5-Trinitrobenzene	< 0.4880	< 0.4880	< 0.4880	< 0.4880
2,4,6-Trinitrotoluene	< 0.4560	< 0.4560	< 0.4560	< 0.4560
2,4-Dinitrotoluene	< 0.4240	< 0.4240	< 0.4240	< 0.4240
2,6-Dinitrotoluene	< 0.5240	< 0.5240	< 0.5240	< 0.5240
Cyclonite (RDX)	< 0.5870	< 0.5870	< 0.5870	< 0.5870
Cyclotetramethylenetetranitramine (HMX)	< 0.6660	< 0.6660	< 0.6660	< 0.6660
Dioxins/Furans (ug/g)				
Heptachlorodibenzodioxin - non specific	NA	NA	NA	NA
Hexachlorodibenzodioxin - non specific	NA	NA	NA	NA
Octachlorodibenzodioxin - non specific	NA	NA	NA	NA

Notes: ** = Analyte was detected at the concentration shown < = Not detected at the value shown, NA = Not analyzed

TOOELE AD-NORTH AREA; SWMU NO. 1C - TRASH BURN PITS
SOIL ANALYTICAL RESULTS FOR GENERAL CHEMICALS

Sample ID	SB-01-007	SB-01-007-DUP	SB-01-007	SB-01-007	SB-01-007	SB-01-007	SB-01-007	SB-01-007
Lab ID	01L1*380	01L1*394	01L1*383	01L1*381	01L1*384	01L1*382	01L1*385	01L1*386
Date Sampled	07/29/92	07/29/92	07/29/92	07/29/92	07/29/92	07/29/92	07/29/92	07/29/92
Depth (ft)	5.000 ft	5.000 ft	10.000 ft	20.000 ft	25.000 ft	35.000 ft	45.000 ft	60.000 ft
Anions (ug/g)								
Chloride	< 6.0500	< 6.0500	16.7000	1720.0000**	1500.0000**	3280.0000**	1890.0000**	2020.0000**
Nitrite, nitrate - nonspecified	< 0.6000	< 0.6000	0.6970	1.2100	2.2300	16.0000**	13.0000**	15.0000**
Sulfate	< 90.4000	< 90.4000	360.0000	834.0000**	623.0000	9250.0000**	494.0000	202.0000
Total phosphates	450.0000**	310.0000	270.0000	760.0000**	440.0000**	320.0000	180.0000	160.0000
General Inorganic Parameters								
pH	10.1000	10.2000	8.0500	7.4500	6.4400	6.6600	8.3000	8.4400

Notes: ** = Va' ~ is above the background concentration for the depth shown, < = Not ' 'ected at the value shown, NA = Not analyzed

TOOELE AD-NORTH AREA: J NO. 1C - TRASH BURN PITS
SOIL ANALYTICAL RESULTS FOR GENERAL CHEMICALS

Sample ID	SB-01-008	SB-01-008	SB-01-008	SB-01-008	SB-01-008	SB-01-008	SB-01-008	EP-01-102
Lab ID	OIL1*387	OIL1*388	OIL1*389	OIL1*390	OIL1*391	OIL1*392	OIL1*393	OIL1*203
Date Sampled	07/28/92	07/28/92	07/28/92	07/28/92	07/28/92	07/28/92	07/29/92	08/06/92
Depth (ft)	5.000 ft	15.000 ft	25.000 ft	35.000 ft	55.000 ft	60.000 ft	100.000 ft	3.500 ft
Anions (ug/g)								
Chloride	< 6.0500	109.0000	2350.0000**	3390.0000**	1590.0000**	809.0000	470.0000	7.4800
Nitrite, nitrate - nonspecified	< 0.6000	< 0.6000	5.8800	2.7100	2.7000	7.4700**	12.0000**	7.8000**
Sulfate	< 90.4000	184.0000	686.0000	487.0000	226.0000	127.0000	375.0000	< 90.4000
Total phosphates	330.0000	170.0000	260.0000	260.0000	260.0000	NA	NA	1400.0000**
General Inorganic Parameters								
pH	9.9900	8.0600	8.0400	9.1200	8.3600	6.7500	8.4000	9.1500

Notes: ** = Value is above the background concentration for the depth shown, < = Not detected at the value shown, NA = Not analyzed

TOOELE AD-NORTH AREA: SWMU NO. 1C - TRASH BURN PITS
SOIL ANALYTICAL RESULTS FOR GENERAL CHEMICALS

Sample ID	EP-01-102	EP-01-102-DUP	EP-01-103	EP-01-103	EP-01-104	EP-01-104	EP-01-105	EP-01-105
Lab ID	OIL1*204	OIL1*332	OIL1*205	OIL1*206	OIL1*207	OIL1*208	OIL1*209	OIL1*210
Date Sampled	08/06/92	08/06/92	08/06/92	08/06/92	08/06/92	08/06/92	08/07/92	08/07/92
Depth (ft)	9.500 ft	9.500 ft	0.000 ft	6.000 ft	3.000 ft	5.500 ft	5.000 ft	7.000 ft
Anions (ug/g)								
Chloride	9.1600	< 6.0500	322.0000**	< 6.0500	71.1000	< 6.0500	115.0000	< 6.0500
Nitrite, nitrate - nonspecified	[illegible].2100**	2.6200**	0.7140	< 0.6000	2.8200**	< 0.6000	4.7500**	< 0.6000
Sulfate	< 90.4000	< 90.4000	116.0000	< 90.4000	173.0000	< 90.4000	182.0000	< 90.4000
Total phosphates	480.0000**	370.0000	1300.0000**			450.0000**	310.0000	610.0000**
General Inorganic Parameters								
pH	8.1000	7.6700	9.2700	7.7800	8.5900	8.5300	8.2200	9.2400

Notes: ** = is above the background concentration for the depth shown, < = [illegible]cted at the value shown, NA = Not analyzed

TOOELE AD-NORTH AREA J NO. 1C - TRASH BURN PITS
SOIL ANALYTICAL RESULTS FOR GENERAL CHEMICALS

Sample ID	EP-01-105-DUP	EP-01-106	EP-01-106	EP-01-107	EP-01-107	EP-01-108	EP-01-108	EP-01-109
Lab ID	OIL1*341	OIL1*211	OIL1*212	OIL1*213	OIL1*214	OIL1*215	OIL1*216	OIL1*297
Date Sampled	08/07/92	08/07/92	08/07/92	08/07/92	08/07/92	08/07/92	08/07/92	08/08/92
Depth (ft)	7.000 ft	6.000 ft	8.000 ft	1.000 ft	5.000 ft	5.000 ft	7.000 ft	4.000 ft
Anions (ug/g)								
Chloride	< 6.0500	18.4000	< 6.0500	< 6.0500	31.0000	32.5000	< 6.0500	45.2000
Nitrite, nitrate - nonspecified	< 0.6000	1.8400	0.8240	0.5970	< 0.6[illegible]	12.0000**	2.4000**	17.0000**
Sulfate	< 90.4000	310.0000	< 90.4000	< 90.4000	< 90.4000	< 90.4000	< 90.4000	< 90.4000
Total phosphates	420.0000	200.0000	680.0000**	360.0000	360.0000	410.0000	220.0000	250.0000
General Inorganic Parameters								
pH	7.5700	8.1500	7.1800	7.6500	7.5700	7.8300	8.2200	9.3200

Notes: ** = Value is above the background concentration for the depth shown, < = Not detected at the value shown, NA = Not analyzed

TOOELE AD-NORTH AREA: SWMU NO. 1C - TRASH BURN PITS
SOIL ANALYTICAL RESULTS FOR GENERAL CHEMICALS

Sample ID	EP-01-109	EP-01-110	EP-01-110	EP-01-111	EP-01-111	EP-01-111-DUP	EP-01-112	EP-01-112
Lab ID	OIL1*298	OIL1*299	OIL1*300	OIL1*301	OIL1*302	OIL1*349	OIL1*303	OIL1*304
Date Sampled	08/08/92	08/08/92	08/08/92	08/08/92	08/08/92	08/08/92	08/09/92	08/09/92
Depth (ft)	6.500 ft	0.500 ft	5.000 ft	3.500 ft	5.500 ft	5.500 ft	3.500 ft	5.500 ft
Anions (ug/g)								
Chloride	35.4000	< 6.0500	< 6.0500	220.0000	68.5000	82.9000	380.0000**	43.1000
Nitrite, nitrate - nonspecified	1.4300	3.4800**	< 0.6000	7.9000**	< 0.6000	< 0.6000	8.9000**	1.5600
Sulfate	< 90.4000	< 90.4000	< 90.4000	217.0000	< 90.4000	< 90.4000	315.0000	< 90.4000
Total phosphates	94.0000	390.0000	620.0000**	390.0000	240.0000	130.0000	430.0000	440.0000
General Inorganic Parameters								
pH	9.9400	7.0800	10.0000	8.7800	9.3500	8.3400	9.9100	10.3000

Notes: ** = [illegible]e is above the background concentration for the depth shown, < = N[illegible]etected at the value shown, NA = Not analyzed

TOOELE AD-NORTH AREA: , NO. 1C - TRASH BURN PITS
SOIL ANALYTICAL RESULTS FOR GENERAL CHEMICALS

Sample ID	EP-01-113	EP-01-113	EP-01-114	EP-01-114	EP-01-115	EP-01-115	EP-01-115-DUP	EP-01-116
Lab ID	OIL1*305	OIL1*306	OIL1*307	OIL1*308	OIL1*309	OIL1*310	OIL1*353	OIL1*311
Date Sampled	08/09/92	08/09/92	08/09/92	08/09/92	08/10/92	08/10/92	08/10/92	08/10/92
Depth (ft)	6.500 ft	8.000 ft	4.000 ft	11.500 ft	4.500 ft	9.500 ft	9.500 ft	3.500 ft
Anions (ug/g)								
Chloride	[illegible]	22.1000	280.0000**	220.0000	113.0000	37.0000	47.4000	22.3000
Nitrite, nitrate - nonspecified	[illegible]**	1.1400	26.0000**	10.2000**	1.9300	2.1800	2.6600**	5.0100**
Sulfate	198.0000	< 90.4000	630.0000**	225.0000	229.0000	109.0000	134.0000	< 90.4000
Total phosphates	260.0000	230.0000	340.0000	160.0000	230.0000	260.0000	210.0000	260.0000
General Inorganic Parameters								
pH	9.5000	10.2000	9.1800	10.2000	9.8600	9.7900	9.5700	10.4000

Notes: ** = Value is above the background concentration for the depth shown, < = Not detected at the value shown, NA = Not analyzed

TOOELE AD-NORTH AREA: SWMU NO. 1C - TRASH BURN PITS
SOIL ANALYTICAL RESULTS FOR GENERAL CHEMICALS

Sample ID	EP-01-116	EP-01-117	EP-01-117	EP-01-118	EP-01-118	EP-01-119	EP-01-119	EP-01-120
Lab ID	OIL1*312	OIL1*313	OIL1*314	OIL1*315	OIL1*316	OIL1*317	OIL1*318	OIL1*319
Date Sampled	08/10/92	08/10/92	08/10/92	08/10/92	08/10/92	08/11/92	08/11/92	08/11/92
Depth (ft)	9.500 ft	0.500 ft	5.500 ft	0.000 ft	5.500 ft	0.000 ft	5.500 ft	0.000 ft
Anions (ug/g)								
Chloride	< 6.0500	8.6300	170.0000	< 6.0500	8.2400	16.5000	< 6.0500	7.4300
Nitrite, nitrate - nonspecified	3.3800**	5.1600**	< 0.6000	1.0100	0.6900	18.0000**	< 0.6000	5.5900**
Sulfate	< 90 4000	< 90.4000	1200.0000**	< 90.4000	< 90.4000	< 90.4000	< 90.4000	< 90.4000
Total phosphates	110.0000	130.0000	330.0000	210.0000	360.0000	480.0000**	230.0000	240.0000
General Inorganic Parameters								
pH	10.4000	7.2100	9.7400	6.7200	9.5700	8.4700	9.4200	9.1100

Notes: ** = [illegible] is above the background concentration for the depth shown, < = [illegible] ected at the value shown, NA = Not analyzed

TOOELE AD-NORTH AREA   AJ NO. 1C - TRASH BURN PITS
SOIL ANALYTICAL RESULTS FOR GENERAL CHEMICALS

Sample ID	EP-01-120	EP-01-121	EP-01-121
Lab ID	01L1*320	01L1*321	01L1*322
Date Sampled	08/11/92	08/11/92	08/11/92
Depth (ft)	5.000 ft	0.000 ft	9.000 ft
Anions (ug/g)			
Chloride	< 6.0500	< 6.0500	10.8000
Nitrite, nitrate - nonspecified	1.0300	1.8800	2.8500**
Sulfate	< 90.4000	< 90.4000	< 90.4000
Total phosphates	320.0000	94.0000	190.0000
General Inorganic Parameters			
pH	9.4000	9.2200	9.6500

Notes: ** = Value is above the background concentration for the depth shown, < = Not detected at the value shown, NA = Not analyzed

Table 5-6

MONTGOMERY WATSON

TABLE 5-6

PROPELLANT BURN PANS (SWMU 1d) ANALYTICAL RESULTS

TOOELE AD-NORTH AREA: SWMU NO. 1D - PROPELLANT BURN PANS
SOIL ANALYTICAL RESULTS FOR METALS

Sample ID	SB-01-005	SB-01-005	SB-01-005	SB-01-005-DUP	SB-01-005	SB-01-005	SB-01-005	SB-01-005
Lab ID	OIL1*287	OIL1*288	OIL1*289	OIL1*294	OIL1*290	OIL1*291	OIL1*292	OIL1*293
Date Sampled	07/25/92	07/25/92	07/25/92	07/25/92	07/25/92	07/25/92	07/25/92	07/25/92
Depth (ft)	5.000 ft	10.000 ft	20.000 ft	20.000 ft	25.000 ft	30.000 ft	40.000 ft	100.000 ft
Metals and Cyanide (ug/g)								
Aluminum	16100.0000	4090.0000	6000.0000	6800.0000	6200.0000	5310.0000	1630.0000	2680.0000
Antimony	< 7.1400	< 7.1400	< 7.1400	< 7.1400	< 7.1400	< 7.1400	9.8200	9.5800
Arsenic	9.6300	4.8200	4.8900	5.1700	5.7500	5.4700	3.2500	4.0900
Barium	173.0000	42.3000	75.1000	82.6000	84.9000	66.0000	35.5000	26.4000
Beryllium	1.5300	< 0.5000	0.7220	0.8330	0.7950	0.6130	< 0.5000	< 0.5000
Cadmium	< 0.7000	< 0.7000	< 0.7000	< 0.7000	< 0.7000	< 0.7000	< 0.7000	< 0.7000
Calcium	32900.0000	97000.0000	24300.0000	23800.0000	32400.0000	130000.0000	240000.0000**	230000.0000**
Chromium	23.0000**	7.9500	10.9000	10.6000	10.3000	7.0100	5.4400	6.4100
Cobalt	8.3700**	2.7400	4.6400	4.4500	4.7300	3.3600	< 1.4200	1.8400
Copper	18.8000	6.0000	9.6200	9.1900	9.4300	5.2600	8.0100	4.0700
Cyanide	< 0.9200	< 0.9200	< 0.9200	< 0.9200	< 0.9200	< 0.9200	< 0.9200	< 0.9200
Iron	18800.0000	6500.0000	11400.0000	11000.0000	10700.0000	6240.0000	3040.0000	3920.0000
Lead	22.0000	5.8900	11.4000	10.8000	11.7000	6.5900	4.5300	3.7000
Magnesium	10400.0000	7270.0000	5700.0000	5440.0000	6800.0000	28200.0000	5520.0000	5240.0000
Manganese	472.0000	202.0000	136.0000	138.0000	104.0000	298.0000	102.0000	120.0000
Mercury	< 0.0500	< 0.0500	0.0727**	0.0637**	< 0.0500	< 0.0500	< 0.0500	< 0.0500
Nickel	26.4000**	8.6500	10.1000	9.9000	11.6000	7.5700	5.7400	7.1200
Potassium	3210.0000	645.0000	1020.0000	1050.0000	1380.0000	1350.0000	201.0000	446.0000
Selenium	1.1600**	1.3800**	0.7490**	0.6840**	1.1700**	1.3900**	1.6800**	1.8800**
Silver	< 0.5890	< 0.5890	< 0.5890	< 0.5890	< 0.5890	< 0.5890	< 1.2000	< 1.2000
Sodium	2770.0000**	867.0000	2500.0000**	2350.0000**	3030.0000**	1390.0000	434.0000	243.0000
Thallium	< 6.6200	< 6.6200	< 6.6200	< 6.6200	< 6.6200	12.3000**	9.2800	8.9700
Vanadium	31.5000**	13.8000	23.9000	21.8000	22.1000	14.4000	9.4400	10.2000
Zinc	109.0000**	24.0000	33.1000	32.9000	36.8000	22.7000	20.2000	25.0000

Notes: ** = Value is above the background concentration for the depth shown, < = Not detected at the value shown, NA = Not analyzed

TOOELE AD-NORTH AREA: SW . ID - PROPELLANT BURN PANS
SOIL ANALYTICAL RESULTS FOR METALS

Sample ID	EP-01-083	EP-01-083	EP-01-084	EP-01-084	EP-01-085	EP-01-085	EP-01-086	EP-01-086
Lab ID	OIL1*165	OIL1*166	OIL1*167	OIL1*168	OIL1*169	OIL1*170	OIL1*171	OIL1*172
Date Sampled	06/27/92	06/27/92	06/27/92	06/27/92	06/27/92	06/27/92	06/27/92	06/27/92
Depth (ft)	0.000 ft	4.500 ft	0.000 ft	4.500 ft	0.000 ft	4.500 ft	0.000 ft	5.000 ft
Metals and Cyanide (ug/g)								
Aluminum	8830.0000	7770.0000	6960.0000	5600.0000	11500.0000	14800.0000	8380.0000	13800.0000
Antimony	< 7.1400	< 7.1400	< 7.1400	< 7.1400	< 7.1400	< 7.1400	< 7.1400	< 7.1400
Arsenic	5.3300	6.2900	3.9100	5.9000	5.8900	10.4000	4.9400	10.1000
Barium	301.0000**	64.1000	329.0000**	46.0000	182.0000	211.0000	275.0000**	177.0000
Beryllium	1.3900	1.2900	0.9200	0.8820	1.7300**	1.7500**	0.7860	1.7900**
Cadmium	1.4500**	< 0.7000	1.4500**	< 0.7000	< 0.7000	< 0.7000	1.7100**	< 0.7000
Calcium	26100.0000	67000.0000	25500.0000	41500.0000	34900.0000	34800.0000	30500.0000	36600.0000
Chromium	12.2000	13.6000	9.8400	9.1100	13.6000	19.5000	10.7000	17.3000
Cobalt	4.2600	4.0400	3.4800	3.0400	5.9300	8.9300**	4.3500	7.8700**
Copper	229.0000**	9.1800	249.0000**	6.2600	74.2000**	17.5000	211.0000**	16.7000
Cyanide	1.3500**	< 0.9200	1.1500**	1.4100**	< 0.9200	< 0.9200	< 0.9200	< 0.9200
Iron	10600.0000	10100.0000	8630.0000	8100.0000	12300.0000	16600.0000	9300.0000	14800.0000
Lead	388.0000**	23.0000	44.3000	9.5200	130.0000**	17.0000	2030.0000**	14.0000
Magnesium	7280.0000	12200.0000	5630.0000	10400.0000	9390.0000	9300.0000	7000.0000	8380.0000
Manganese	413.0000	365.0000	276.0000	124.0000	505.0000	607.0000**	379.0000	531.0000
Mercury	< 0.0500	< 0.0500	0.0638**	0.1100**	< 0.0500	< 0.0500	0.0773**	< 0.0500
Nickel	11.6000	15.2000	9.6000	11.7000	15.8000	22.7000**	12.0000	19.4000**
Potassium	4110.0000	1120.0000	2710.0000	705.0000	4470.0000	3590.0000	2890.0000	3320.0000
Selenium	< 0.2500	< 0.2500	< 0.2500	< 0.2500	< 0.2500	< 0.2500	< 0.2500	< 0.2500
Silver	< 0.5890	< 0.5890	< 0.5890	< 0.5890	< 0.5890	< 0.5890	< 0.5890	< 0.5890
Sodium	426.0000	1220.0000	1160.0000	1160.0000	364.0000	3720.0000**	289.0000	3760.0000**
Thallium	16.2000**	16.1000**	9.7200**	< 6.6200	< 6.6200	< 6.6200	< 6.6200	< 6.6200
Vanadium	16.1000	22.9000	14.6000	15.5000	19.0000	29.9000**	14.0000	30.6000**
Zinc	140.0000**	43.9000	149.0000**	37.2000	84.4000	85.2000	137.0000**	70.0000

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Notes: ** = Value is above the background concentration for the depth shown, < = Not detected at the value shown, NA = Not analyzed

TOOELE AD-NORTH AREA: SWMU NO. 1D - PROPELLANT BURN PANS
SOIL ANALYTICAL RESULTS FOR METALS

Sample ID	EP-01-087	EP-01-087-DUP	EP-01-087	EP-01-088	EP-01-088	EP-01-089	EP-01-089
Lab ID	OIL1*173	OIL1*253	OIL1*174	OIL1*175	OIL1*176	OIL1*177	OIL1*178
Date Sampled	06/28/92	06/28/92	06/28/92	06/28/92	06/28/92	06/28/92	06/28/92
Depth (ft)	0.000 ft	0.000 ft	5.000 ft	0.000 ft	6.000 ft	0.000 ft	4.500 ft
Metals and Cyanide (ug/g)							
Aluminum	6870.0000	8030.0000	8790.0000	7000.0000	9530.0000	6730.0000	16200.0000
Antimony	< 7.1400	< 7.1400	< 7.1400	< 7.1400	< 7.1400	< 7.1400	< 7.1400
Arsenic	4.3300	5.1300	7.9500	4.6500	6.7000	4.5700	8.0700
Barium	240.0000	204.0000	96.0000	294.0000**	119.0000	351.0000**	240.0000
Beryllium	0.7560	0.7380	1.1000	0.7290	1.4500	0.9060	1.8800**
Cadmium	1.2700**	1.3300**	< 0.7000	1.1200**	< 0.7000	1.4300**	< 0.7000
Calcium	28600.0000	28600.0000	61000.0000	35300.0000	75000.0000**	32500.0000	26400.0000
Chromium	10.3000	11.3000	12.7000	10.4000	14.0000	10.1000	20.2000
Cobalt	3.8500	4.2300	3.6500	3.5100	5.3500	3.3900	8.4100**
Copper	165.0000**	169.0000**	9.7800	179.0000**	11.2000	234.0000**	16.4000
Cyanide	< 0.9200	< 0.9200	< 0.9200	< 0.9200	< 0.9200	1.2200**	< 0.9200
Iron	8370.0000	9860.0000	10500.0000	8310.0000	11400.0000	8480.0000	17000.0000
Lead	1350.0000**	196.0000**	14.0000	1450.0000**	12.0000	126.0000**	16.0000
Magnesium	6520.0000	6940.0000	14400.0000**	5870.0000	8350.0000	5880.0000	7860.0000
Manganese	349.0000	376.0000	531.0000	293.0000	522.0000	247.0000	576.0000**
Mercury	0.0545**	0.0622**	< 0.0500	0.0891**	< 0.0500	0.1210**	< 0.0500
Nickel	10.7000	11.7000	16.5000	10.0000	15.8000	9.8200	22.4000**
Potassium	2770.0000	3070.0000	1180.0000	2510.0000	1810.0000	2940.0000	4000.0000
Selenium	< 0.2500	< 0.2500	< 0.2500	< 0.2500	< 0.2500	< 0.2500	< 0.2500
Silver	< 0.5890	< 0.5890	< 0.5890	< 0.5890	< 0.5890	< 0.5890	< 0.5890
Sodium	340.0000	352.0000	1500.0000**	322.0000	516.0000	317.0000	2530.0000**
Thallium	< 6.6200	< 6.6200	< 6.6200	< 6.6200	< 6.6200	< 6.6200	< 6.6200
Vanadium	12.8000	14.6000	23.5000	14.2000	22.1000	12.6000	30.0000**
Zinc	111.0000**	113.0000**	45.6000	118.0000**	54.3000	145.0000**	74.8000

Notes: ** = Value is above the background concentration for the depth shown, < = Not detected at the value shown, NA = Not analyzed

TOOELE AD-NORTH AREA: SW 1D - PROPELLANT BURN PANS
SOIL ANALYTICAL RESUL.. FOR ORGANIC COMPOUNDS

Sample ID	SB-01-005	SB-01-005	SB-01-005	SB-01-005-DUP	SB-01-005	SB-01-005	SB-01-005	SB-01-005
Lab ID	OIL1*287	OIL1*288	OIL1*289	OIL1*294	OIL1*290	OIL1*291	OIL1*292	OIL1*293
Date Sampled	07/25/92	07/25/92	07/25/92	07/25/92	07/25/92	07/25/92	07/25/92	07/25/92
Depth (ft)	5.000 ft	10.000 ft	20.000 ft	20.000 ft	25.000 ft	30.000 ft	40.000 ft	100.000 ft
Volatile Organic Compounds (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA
Semivolatile Organic Compounds (ug/g)								
Di-n-butyl phthalate	NA	NA	NA	NA	NA	NA	NA	NA
Pesticides (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA
Herbicides (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA
Total Petroleum Hydrocarbons (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA
Explosives (ug/g)								
2,4-Dinitrotoluene	< 0.4240	< 0.4240	< 0.4240	< 0.4240	< 0.4240	< 0.4240	< 0.4240	< 0.4240
2,6-Dinitrotoluene	< 0.5240	< 0.5240	< 0.5240	< 0.5240	< 0.5240	< 0.5240	< 0.5240	< 0.5240
Cyclonite (RDX)	< 0.5870	< 0.5870	< 0.5870	< 0.5870	< 0.5870	< 0.5870	< 0.5870	< 0.5870
Dioxins/Furans (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA

Notes: ** = Analyte was detected at the concentration shown < = Not detected at the value shown, NA = Not analyzed

TOOELE AD-NORTH AREA: SWMU NO. 1D - PROPELLANT BURN PANS
SOIL ANALYTICAL RESULTS FOR ORGANIC COMPOUNDS

Sample ID	EP-01-083	EP-01-083	EP-01-084	EP-01-084	EP-01-085	EP-01-085	EP-01-086	EP-01-086
Lab ID	01L1*165	01L1*166	01L1*167	01L1*168	01L1*169	01L1*170	01L1*171	01L1*172
Date Sampled	06/27/92	06/27/92	06/27/92	06/27/92	06/27/92	06/27/92	06/27/92	06/27/92
Depth (ft)	0.000 ft	4.500 ft	0.000 ft	4.500 ft	0.000 ft	4.500 ft	0.000 ft	5.000 ft
Volatile Organic Compounds (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA
Semivolatile Organic Compounds (ug/g)								
Di-n-butyl phthalate	NA	NA	NA	NA	NA	NA	NA	NA
Pesticides (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA
Herbicides (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA
Total Petroleum Hydrocarbons (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA
Explosives (ug/g)								
2,4-Dinitrotoluene	13.6000**	< 0.4240	6.7800**	< 0.4240	< 0.4240	< 0.4240	2.0700**	< 0.4240
2,6-Dinitrotoluene	< 0.5240	< 0.5240	< 0.5240	< 0.5240	< 0.5240	< 0.5240	< 0.5240	< 0.5240
Cyclonite (RDX)	< 0.5870	< 0.5870	< 0.5870	< 0.5870	< 0.5870	< 0.5870	< 0.5870	< 0.5870
Dioxins/Furans (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA

Notes: ** = Analyte was detected at the concentration shown < = Not detected at the value shown, NA = Not analyzed

TOOELE AD-NORTH AREA: SW . 1D - PROPELLANT BURN PANS
SOIL ANALYTICAL RESULTS FOR ORGANIC COMPOUNDS

Sample ID	EP-01-087	EP-01-087-DUP	EP-01-087	EP-01-087-DUP	EP-01-088	EP-01-088-DUP	EP-01-088	EP-01-089
Lab ID	OIL1*173	OIL1*253	OIL1*174	OIL1*244	OIL1*175	OIL1*245	OIL1*176	OIL1*177
Date Sampled	06/28/92	06/28/92	06/28/92	06/28/92	06/28/92	06/28/92	06/28/92	06/28/92
Depth (ft)	0.000 ft	0.000 ft	5.000 ft	5.000 ft	0.000 ft	0.000 ft	6.000 ft	0.000 ft
Volatile Organic Compounds (ug/g)	NA	NA	NA	ND	NA	ND	NA	NA
Semivolatile Organic Compounds (ug/g)								
Di-n-butyl phthalate	NA	NA	< 0.0610	NA	0.8040**	NA	NA	NA
Pesticides (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA
Herbicides (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA
Total Petroleum Hydrocarbons (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA
Explosives (ug/g)								
2,4-Dinitrotoluene	5.4600**	2.4500**	< 0.1400	NA	10.3000**	NA	< 0.4240	5.4800**
2,6-Dinitrotoluene	< 0.5240	< 0.5240	< 0.0850	NA	0.2820**	NA	< 0.5240	< 0.5240
Cyclonite (RDX)	0.6890**	0.7380**	< 0.5870	NA	1.0900**	NA	< 0.5870	< 0.5870
Dioxins/Furans (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA

Notes: ** = Analyte was detected at the concentration shown < = Not detected at the value shown, NA = Not analyzed

TOOELE AD-NORTH AREA: SWMU NO. 1D - PROPELLANT BURN PANS
SOIL ANALYTICAL RESULTS FOR ORGANIC COMPOUNDS

Sample ID	EP-01-089
Lab ID	OIL1*178
Date Sampled	06/28/92
Depth (ft)	4.500 ft
Volatile Organic Compounds (ug/g)	NA
Semivolatile Organic Compounds (ug/g)	
Di-n-butyl phthalate	NA
Pesticides (ug/g)	NA
Herbicides (ug/g)	NA
Total Petroleum Hydrocarbons (ug/g)	NA
Explosives (ug/g)	
2,4-Dinitrotoluene	< 0.4240
2,6-Dinitrotoluene	< 0.5240
Cyclonite (RDX)	< 0.5870
Dioxins/Furans (ug/g)	NA

Notes: ** = Analyte was detected at the concentration shown < = Not detected at the value shown, NA = Not analyzed

TOOELE AD-NORTH AREA: SW . 1D - PROPELLANT BURN PANS
SOIL ANALYTICAL RESULTS FOR GENERAL CHEMICALS

Sample ID	SB-01-005	SB-01-005	SB-01-005	SB-01-005-DUP	SB-01-005	SB-01-005	SB-01-005	SB-01-005
Lab ID	OIL1*287	OIL1*288	OIL1*289	OIL1*294	OIL1*290	OIL1*291	OIL1*292	OIL1*293
Date Sampled	07/25/92	07/25/92	07/25/92	07/25/92	07/25/92	07/25/92	07/25/92	07/25/92
Depth (ft)	5.000 ft	10.000 ft	20.000 ft	20.000 ft	25.000 ft	30.000 ft	40.000 ft	100.000 ft
Anions (ug/g)								
Chloride	23.7000	109.0000	105.0000	985.0000	5920.0000**	3620.0000**	1450.0000**	43.3000
Nitrite, nitrate - nonspecified	11.0000**	1.0300	1.3200	1.2200	10.5000**	13.0000**	7.2000**	< 0.6000
Sulfate	< 90.4000	341.0000	< 271.0000	998.0000**	427.0000	188.0000	< 90.4000	< 90.4000
Total phosphates	1000.0000**	660.0000**	580.0000**	640.0000**	860.0000**	330.0000	710.0000**	< 7.4900
General Inorganic Parameters								
pH	9.5800	9.2300	8.6900	8.5100	7.7600	7.7800	7.9500	8.6200

Notes: ** = Value is above the background concentration for the depth shown, < = Not detected at the value shown, NA = Not analyzed

TOOELE AD-NORTH AREA: SWMU NO. 1D - PROPELLANT BURN PANS
SOIL ANALYTICAL RESULTS FOR GENERAL CHEMICALS

Sample ID	EP-01-083	EP-01-083	EP-01-084	EP-01-084	EP-01-085	EP-01-085	EP-01-086	EP-01-086
Lab ID	OIL1*165	OIL1*166	OIL1*167	OIL1*168	OIL1*169	OIL1*170	OIL1*171	OIL1*172
Date Sampled	06/27/92	06/27/92	06/27/92	06/27/92	06/27/92	06/27/92	06/27/92	06/27/92
Depth (ft)	0.000 ft	4.500 ft	0.000 ft	4.500 ft	0.000 ft	4.500 ft	0.000 ft	5.000 ft
Anions (ug/g)								
Chloride	48.6000	6.7500	1200.0000**	9.0300	29.4000	4500.0000**	9.5200	2800.0000**
Nitrite, nitrate - nonspecified	37.0000**	0.7130	87.0000**	2.2200	20.0000**	2.3300	24.0000**	1.0600
Sulfate	452.0000	< 90.4000	1200.0000**	< 90.4000	< 90.4000	1300.0000**	< 90.4000	631.0000**
Total phosphates	640.0000**	420.0000	550.0000**	2300.0000**	670.0000**	2100.0000**	860.0000**	1000.0000**
General Inorganic Parameters								
pH	6.9500	9.6900	6.6600	9.9000	8.5000	6.8600	7.3900	7.2900

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Notes: ** = Value is above the background concentration for the depth shown, < = Not detected at the value shown, NA = Not analyzed

TOOELE AD-NORTH AREA: S\ . 1D - PROPELLANT BURN PANS
SOIL ANALYTICAL RESUL:S FOR GENERAL CHEMICALS

Sample ID	EP-01-087	EP-01-087-DUP	EP-01-087	EP-01-088	EP-01-088	EP-01-08V	EP-01-089
Lab ID	OIL1*173	OIL1*253	OIL1*174	OIL1*175	OIL1*176	OiL1*177	OIL1*178
Date Sampled	06/28/92	06/28/92	06/28/92	06/28/92	06/28/92	06/28/92	06/28/92
Depth (ft)	0.000 ft	0.000 ft	5.000 ft	0.000 ft	6.000 ft	0.000 ft	4.500 ft
Anions (ug/g)							
Chloride	50.8000	42.3000	8.3000	33.3000	25.5000	32.1000	41.8000
Nitrite, nitrate - nonspecified	61.0000**	55.0000**	0.9340	27.0000**	5.4300**	39.0000**	2.0500
Sulfate	195.0000	169.0000	< 90.4000	156.0000	< 90.4000	830.0000**	203.0000
Total phosphates	980.0000**	730.0000**	1400.0000**	1100.0000**	1100.0000**	530.0000**	790.0000**
General Inorganic Parameters							
pH	7.1500	8.5500	9.4600	7.1500	7.9800	6.8200	8.1800

Notes: ** = Value is above the background concentration for the depth shown, < = Not detected at the value shown, NA = Not analyzed

Table 5-7

MONTGOMERY WATSON

TABLE 5-7

BOX ELDER WASH
ANALYTICAL RESULTS

TOOELE AD-NORTH AREA: SWMU NO. 1 - BOX ELDER WASH
SOIL ANALYTICAL RESULTS FOR METALS

Sample ID	SS-01-001	SS-01-002	SS-01-002-DUP	SS-01-003	SS-01-004	SS-01-005	SS-01-006	SS-01-007
Lab ID	OIL1*399	OIL1*400	OIL1*407	OIL1*401	OIL1*402	OIL1*403	OIL1*404	OIL1*405
Date Sampled	07/12/92	07/12/92	07/12/92	07/12/92	07/12/92	07/12/92	07/12/92	07/12/92
Depth (ft)	0.000 ft	0.000 ft	0.000 ft	0.000 ft	0.000 ft	0.000 ft	0.000 ft	0.000 ft
Metals and Cyanide (ug/g)								
Aluminum	6990.0000	8300.0000	9120.0000	10700.0000	8910.0000	8830.0000	8890.0000	7540.0000
Antimony	< 7.1400	< 7.1400	< 7.1400	< 7.1400	< 7.1400	< 7.1400	< 7.1400	< 7.1400
Arsenic	5.9000	5.9300	6.7000	6.7000	6.4000	6.4000	6.3000	5.2500
Barium	146.0000	152.0000	149.0000	163.0000	137.0000	151.0000	141.0000	129.0000
Beryllium	0.8490	0.9490	1.1700	1.3400	1.0100	0.9420	1.0900	0.6510
Cadmium	< 0.7000	0.8800**	0.9430**	< 0.7000	< 0.7000	< 0.7000	< 0.7000	< 0.7000
Calcium	41200.0000	37000.0000	38800.0000	33100.0000	31000.0000	47800.0000	34500.0000	34300.0000
Chromium	8.6600	10.6000	11.8000	12.8000	11.3000	11.0000	11.2000	10.1000
Cobalt	5.1500	5.3400	5.6700	6.4000	5.2300	5.4500	5.2100	4.8100
Copper	14.0000	65.3000**	75.3000**	20.5000	10.9000	19.3000	16.0000	12.2000
Cyanide	< 0.9200	< 0.9200	< 0.9200	< 0.9200	< 0.9200	< 0.9200	< 0.9200	< 0.9200
Iron	8070.0000	9420.0000	10300.0000	11200.0000	9720.0000	9570.0000	9710.0000	8780.0000
Lead	11.0000	13.0000	11.0000	12.0000	8.2000	8.2000	9.1000	8.2000
Magnesium	8660.0000	8710.0000	9070.0000	8780.0000	7500.0000	8400.0000	8700.0000	8560.0000
Manganese	440.0000	453.0000	457.0000	526.0000	429.0000	498.0000	443.0000	412.0000
Mercury	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500
Nickel	11.4000	12.5000	13.8000	14.9000	12.1000	12.5000	12.6000	11.9000
Potassium	2880.0000	3240.0000	3440.0000	4160.0000	3020.0000	3230.0000	3070.0000	2640.0000
Selenium	< 0.2500	< 0.2500	< 0.2500	< 0.2500	< 0.2500	< 0.2500	< 0.2500	< 0.2500
Silver	< 0.5890	< 0.5890	< 0.5890	< 0.5890	< 0.5890	< 0.5890	< 0.5890	< 0.5890
Sodium	339.0000	321.0000	317.0000	338.0000	414.0000	348.0000	325.0000	288.0000
Thallium	< 6.6200	< 6.6200	9.0900	< 6.6200	< 6.6200	< 6.6200	< 6.6200	< 6.6200
Vanadium	15.1000	15.4000	16.1000	18.7000	16.4000	16.5000	16.3000	15.6000
Zinc	72.6000	72.7000	77.7000	58.5000	48.1000	54.3000	50.1000	43.3000

Notes: ** = is above the background concentration for the depth shown, < = N ected at the value shown, NA = Not analyzed

TOOELE AD-NORTH AREA. / NO. 1 - BOX ELDER WASH
SOIL ANALYTICAL RESULTS FOR METALS

Sample ID	SS-01-008
Lab ID	0IL1*406
Date Sampled	07/12/92
Depth (ft)	0.000 ft
Metals and Cyanide (ug/g)	
Aluminum	5120.0000
Antimony	< 7.1400
Arsenic	4.3500
Barium	90.3000
Beryllium	0.6980
Cadmium	< 0.7000
Calcium	38800.0000
Chromium	7.0200
Cobalt	3.0600
Copper	9.6300
Cyanide	< 0.9200
Iron	6330.0000
Lead	5.5800
Magnesium	5940.0000
Manganese	218.0000
Mercury	< 0.0500
Nickel	8.7100
Potassium	1850.0000
Selenium	< 0.2500
Silver	< 0.5890
Sodium	267.0000
Thallium	< 6.6200
Vanadium	11.2000
Zinc	31.4000

5-7-2

Notes: ** = Value is above the background concentration for the depth shown, < = Not detected at the value shown, NA = Not analyzed

TOOELE AD-NORTH AREA: SWMU NO. 1 - BOX ELDER WASH
SOIL ANALYTICAL RESULTS FOR ORGANIC COMPOUNDS

Sample ID	SS-01-001	SS-01-002	SS-01-002-DUP	SS-01-003	SS-01-004	SS-01-005	SS-01-006	SS-01-007
Lab ID	OIL1*399	OIL1*400	OIL1*407	OIL1*401	OIL1*402	OIL1*403	OIL1*404	OIL1*405
Date Sampled	07/12/92	07/12/92	07/12/92	07/12/92	07/12/92	07/12/92	07/12/92	07/12/92
Depth (ft)	0.000 ft	0.000 ft	0.000 ft	0.000 ft	0.000 ft	0.000 ft	0.000 ft	0.000 ft
Volatile Organic Compounds (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA
Semivolatile Organic Compounds (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA
Pesticides (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA
Herbicides (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA
Total Petroleum Hydrocarbons (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA
Explosives (ug/g)	ND	ND	ND	ND	ND	ND	ND	ND
Dioxins/Furans (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA

Notes: ** = A was detected at the concentration shown < = Not detected at the shown, NA = Not analyzed

TOOELE AD-NORTH AREA: NO. 1 - BOX ELDER WASH
SOIL ANALYTICAL RESULTS FOR ORGANIC COMPOUNDS

Sample ID	SS-01-008
Lab ID	OIL1*406
Date Sampled	07/12/92
Depth (ft)	0.000 ft
Volatile Organic Compounds (ug/g)	NA
Semivolatile Organic Compounds (ug/g)	NA
Pesticides (ug/g)	NA
Herbicides (ug/g)	NA
Total Petroleum Hydrocarbons (ug/g)	NA
Explosives (ug/g)	ND
Dioxins/Furans (ug/g)	NA

Notes: ** = Analyte was detected at the concentration shown < = Not detected at the value shown, NA = Not analyzed

TOOELE AD-NORTH AREA: SWMU NO. 1 - BOX ELDER WASH
SOIL ANALYTICAL RESULTS FOR GENERAL CHEMICALS

Sample ID	SS-01-001	SS-01-002	SS-01-002-DUP	SS-01-003	SS-01-004	SS-01-005	SS-01-006	SS-01-007
Lab ID	OIL1*399	OIL1*400	OIL1*407	OIL1*401	OIL1*402	OIL1*403	OIL1*404	OIL1*405
Date Sampled	07/12/92	07/12/92	07/12/92	07/12/92	07/12/92	07/12/92	07/12/92	07/12/92
Depth (ft)	0.000 ft	0.000 ft	0.000 ft	0.000 ft	0.000 ft	0.000 ft	0.000 ft	0.000 ft
Anions (ug/g)								
Chloride	< 6.0500	16.9000	14.7000	< 6.0500	9.1400	9.2800	13.5000	7.3200
Nitrite, nitrate - nonspecified	6.2200**	18.0000**	3.2500**	17.0000**	5.4300**	18.0000**	10.6000**	4.3800**
Total phosphates	1100.0000**	< 300.0000	590.0000**	2200.0000**	430.0000	410.0000	850.0000**	420.0000
General Inorganic Parameters								
pH	8.5000	8.5800	8.6100	8.7100	8.7400	8.8800	8.6100	8.8900

Notes: ** = is above the background concentration for the depth shown, < = ' ...cted at the value shown, NA = Not analyzed

TOOELE AD-NORTH AREA: NO. 1 - BOX ELDER WASH
SOIL ANALYTICAL RESUL.. FOR GENERAL CHEMICALS

Sample ID	SS-01-008
Lab ID	01L1*406
Date Sampled	07/12/92
Depth (ft)	0.000 ft
Anions (ug/g)	
Chloride	< 6.0500
Nitrite, nitrate - nonspecified	4.0300**
Total phosphates	1300.0000**
General Inorganic Parameters	
pH	8.8800

otes: ** = Value is above the background concentration for the depth shown, < = Not detected at the value shown, NA = Not analyzed

Table 5-8

MONTGOMERY WATSON

TABLE 5-8

SAND BLAST AREA (SWMU 4)
ANALYTICAL RESULTS

TOOELE AD-NORTH AREA: SWMU NO. 4 - SANDBLAST AREA
SOIL ANALYTICAL RESULTS FOR METALS

Sample ID	SS-04-001	SS-04-002	SS-04-003	SS-04-004	SS-04-005	SS-04-005-DUP	SS-04-006
Lab ID	OIL1*408	OIL1*409	OIL1*410	OIL1*411	OIL1*412	OIL1*772	OIL1*413
Date Sampled	07/21/92	07/21/92	07/21/92	07/21/92	07/21/92	07/21/92	07/21/92
Depth (ft)	0.000 ft	0.000 ft	0.000 ft	0.000 ft	0.000 ft	0.000 ft	0.000 ft
Metals and Cyanide (ug/g)							
Aluminum	2740.0000	2080.0000	3300.0000	2000.0000	2630.0000	1680.0000	3050.0000
Antimony	22.3000**	< 7.1400	< 14.0000	< 36.0000	22.5000**	19.3000**	8.9500**
Arsenic	16.0000	4.2900	23.0000	29.0000	17.0000	11.9000	25.0000
Barium	127.0000	47.2000	177.0000	272.0000**	730.0000**	503.0000**	317.0000**
Beryllium	1.4800	< 0.5000	3.8000**	8.6000**	1.7800**	1.3200	< 0.5000
Cadmium	61.6000**	2.0400**	60.0000**	260.0000**	62.9000**	56.6000**	6.7400**
Calcium	10800.0000	83000.0000**	48000.0000	18300.0000	17300.0000	19500.0000	54000.0000
Chromium	428.0000**	16.6000	648.0000**	1740.0000**	1980.0000**	1860.0000**	77.9000**
Cobalt	13.1000**	< 1.4200	18.0000**	39.0000**	34.3000**	29.8000**	3.9400
Copper	308.0000**	8.0600	220.0000**	430.0000**	152.0000**	134.0000**	192.0000**
Cyanide	< 0.9200	< 0.9200	1.3300**	1.0800**	9.6900**	4.0100**	< 0.9200
Iron	33700.0000**	3370.0000	100000.0000**	200000.0000**	33500.0000**	26000.0000**	13400.0000
Lead	1820.0000**	31.6000	1500.0000**	4000.0000**	9400.0000**	8600.0000**	288.0000**
Magnesium	5000.0000	8100.0000	5200.0000	3100.0000	2820.0000	4110.0000	4960.0000
Manganese	249.0000	127.0000	1100.0000**	1800.0000**	375.0000	280.0000	191.0000
Mercury	0.2200**	< 0.0500	0.2250**	0.0984**	0.0737**	0.0706**	< 0.0500
Nickel	54.1000**	5.0200	190.0000**	360.0000**	35.1000**	29.4000**	20.6000**
Potassium	555.0000	599.0000	1010.0000	455.0000	501.0000	251.0000	731.0000
Selenium	< 0.2500	< 0.2500	0.9860**	1.3200**	0.5470**	< 0.2500	< 0.2500
Silver	< 0.5890	< 0.5890	< 1.2000	< 2.9000	< 0.5890	< 0.5890	1.5700**
Sodium	281.0000	598.0000	1190.0000	773.0000	392.0000	306.0000	1050.0000
Thallium	12.0000**	8.4100	52.0000**	96.0000**	26.5000**	22.3000**	< 6.6200
Vanadium	7.9900	9.2500	12.0000	< 17.0000	13.6000	10.4000	9.8800
Zinc	1660.0000**	57.5000	1200.0000**	2800.0000**	2790.0000**	2420.0000**	292.0000**

Notes: ** = ' is above the background concentration for the depth shown, < = ' cted at the value shown, NA = Not analyzed

TOOELE AD-NORTH AREA: ! O. 4 - SANDBLAST AREA
SOIL ANALYTICAL RESULTS FOR ORGANIC COMPOUNDS

Sample ID	SS-04-001	SS-04-002	SS-04-003	SS-04-004	SS-04-005	SS-04-005-DUP	SS-04-006
Lab ID	OIL1*408	OIL1*409	OIL1*410	OIL1*411	OIL1*412	OIL1*772	OIL1*413
Date Sampled	07/21/92	07/21/92	07/21/92	07/21/92	07/21/92	07/21/92	07/21/92
Depth (ft)	0.000 ft	0.000 ft	0.000 ft	0.000 ft	0.000 ft	0.000 ft	0.000 ft
Volatile Organic Compounds (ug/g)							
1,1,2-Trichloro-1,2,2-trifluoroethane	NA	NA	NA	0.0062**	NA	NA	NA
Chloroform	< 0.0009	< 0.0009	< 0.0009	0.0012**	< 0.0009	< 0.0009	< 0.0009
Methylene chloride	< 0.0120	< 0.0120	< 0.0120	< 0.0120	< 0.0120	0.1800**	< 0.0120
Trichlorofluoromethane	0.0150**	0.0088**	0.0126**	0.0141**	< 0.0059	< 0.0059	< 0.0059
Toluene	0.0049**	0.0020**	0.0028**	0.0033**	< 0.0008	< 0.0008	< 0.0008
Semivolatile Organic Compounds (ug/g)							
2,6,10,14-Tetramethylpentadecane (TIC)	NA	NA	NA	NA	NA	NA	1.0000**
Anthracene	< 0.1000	< 0.0330	< 0.1000	0.2000**	< 0.1000	< 0.1000	< 0.1000
Bis (2-ethylhexyl) phthalate	10.0000**	< 0.6200	4.0000**	8.0000**	40.0000**	40.0000**	< 2.0000
Chrysene	< 0.5000	< 0.1200	< 0.5000	0.5000**	0.6000**	0.6000**	< 0.5000
Di-n-butyl phthalate	< 0.2000	< 0.0610	< 0.2000	1.0000**	< 0.2000	< 0.2000	< 0.2000
Eicosane (TIC)	NA	NA	NA	NA	NA	NA	2.0000**
Fluoranthene	< 0.3000	< 0.0680	0.3000**	1.0000**	1.0000**	1.0000**	< 0.3000
Heptadecane (TIC)	NA	NA	NA	NA	NA	NA	1.0000**
Hexadecane (TIC)	NA	NA	NA	NA	NA	NA	0.8000**
Hexadecanoic acid / Palmitic acid (TIC)	9.0000**	NA	2.0000**	NA	10.0000**	10.0000**	NA
Octadecane (TIC)	NA	NA	NA	NA	NA	NA	2.0000**
Octadecanoic acid / Stearic acid	1.0000**	NA	NA	4.0000**	NA	5.0000**	NA
Phenanthrene	< 0.1000	< 0.0330	< 0.1000	0.2000**	1.0000**	1.0000**	0.4000**
Pyrene	< 0.1000	< 0.0330	< 0.1000	0.5000**	0.6000**	0.6000**	0.3000**
esticides (ug/g)	ND	ND	ND	ND	ND	ND	ND
erbicides (ug/g)	NA	NA	NA	NA	NA	NA	NA
otal Petroleum Hydrocarbons (ug/g)	NA	NA	NA	NA	NA	NA	NA
xplosives (ug/g)	ND	ND	ND	ND	ND	ND	ND
ioxins/Furans (ug/g)	NA	NA	NA	NA	NA	NA	NA

otes: ** = Analyte was detected at the concentration shown < = Not detected at the value shown, NA = Not analyzed

Table 5-9

MONTGOMERY WATSON

TABLE 5-9

SEWAGE LAGOONS (SWMU 14) ANALYTICAL RESULTS

TOOELE AD-NORTH AREA: SWMU NO. 14 - SEWAGE LAGOONS
SEDIMENT ANALYTICAL RESULTS FOR METALS

Sample ID	SD-14-001	SD-14-002	SD-14-002-DUP	SD-14-003	SD-14-004
Lab ID	OIL1*414	OIL1*415	OIL1*418	OIL1*416	OIL1*417
Date Sampled	07/13/92	07/13/92	07/13/92	07/13/92	07/13/92
Depth (ft)	0.000 ft	0.000 ft	0.000 ft	0.000 ft	0.000 ft
Metals and Cyanide (ug/g)					
Aluminum	3910.0000	5000.0000	4720.0000	11000.0000	12600.0000
Antimony	< 7.1400	< 7.1400	< 7.1400	< 7.1400	< 7.1400
Arsenic	27.9000	33.6000	31.9000	4.3300	3.9500
Barium	341.0000**	360.0000**	362.0000**	85.5000	126.0000
Beryllium	< 0.5000	< 0.5000	< 0.5000	1.1700	1.1300
Cadmium	26.3000**	42.0000**	41.0000**	1.5000**	< 0.7000
Calcium	141000.0000**	117000.0000**	107000.0000**	67000.0000	26200.0000
Chromium	< 4.0500	147.0000**	145.0000**	20.9000	15.7000
Cobalt	< 1.4200	< 1.4200	< 1.4200	3.8900	5.2800
Copper	367.0000**	410.0000**	418.0000**	25.6000**	17.4000
Cyanide	< 0.9200	< 0.9200	< 0.9200	< 0.9200	< 0.9200
Iron	8150.0000	10100.0000	9900.0000	11900.0000	12900.0000
Lead	226.0000**	388.0000**	417.0000**	37.9000	20.0000
Magnesium	7740.0000	7300.0000	6890.0000	11500.0000	8840.0000
Manganese	117.0000	143.0000	132.0000	130.0000	364.0000
Mercury	1.5700**	2.7000**	2.5100**	0.0733**	< 0.0500
Nickel	< 1.7100	33.9000**	< 1.7100	12.7000	12.5000
Potassium	< 100.0000	< 100.0000	< 100.0000	3520.0000	4890.0000
Selenium	16.7000**	14.6000**	13.4000**	0.7260**	< 0.2500
Silver	56.4000**	101.0000**	102.0000**	2.6600**	< 0.5890
Sodium	9430.0000**	6850.0000**	6610.0000**	641.0000	344.0000
Thallium	< 6.6200	< 6.6200	< 6.6200	12.5000**	< 6.6200
Vanadium	< 3.3900	< 3.3900	< 3.3900	23.6000	20.1000
Zinc	1070.0000**	1260.0000**	1230.0000**	97.6000	71.7000

Notes: ** is above the background concentration for the depth shown, < = tected at the value shown, NA = Not analyzed

TOOELE AD-NORTH A . SWMU NO. 14 - SEWAGE LAGOONS
SEDIMENT ANALYTICAL RESULTS FOR ORGANIC COMPOUNDS

Sample ID	SD-14-001	SD-14-001-DUP	SD-14-002	SD-14-002-DUP	SD-14-003	SD-14-004
Lab ID	NEQ81*47	OIL1*414	OIL1*415	OIL1*418	OIL1*416	OIL1*417
Date Sampled	07/13/92	07/13/92	07/13/92	07/13/92	07/13/92	07/13/92
Depth (ft)	0.000 ft	0.000 ft	0.000 ft	0.000 ft	0.000 ft	0.000 ft
Volatile Organic Compounds (ug/g)	ND	ND	ND	ND	ND	ND
Semivolatile Organic Compounds (ug/g)						
2-Cyclohexen-1-one (TIC)	NA	NA	NA	NA	NA	0.3200**
Heptadecane (TIC)	NA	300.0000**	NA	NA	NA	NA
Pesticides (ug/g)	NA	ND	ND	ND	ND	ND
Herbicides (ug/g)	NA	NA	NA	NA	NA	NA
Total Petroleum Hydrocarbons (ug/g)	NA	NA	NA	NA	NA	NA
Explosives (ug/g)	NA	ND	ND	ND	ND	ND
Dioxins/Furans (ug/g)	NA	NA	NA	NA	NA	NA

Notes: ** = 'te was detected at the concentration shown < = Not detected at the e shown, NA = Not analyzed

TOOELE AD-NORTH AREA: SWMU NO. 14 - SEWAGE LAGOONS
SEDIMENT ANALYTICAL RESULTS FOR GENERAL CHEMICALS

ample ID	SD-14-001	SD-14-002	SD-14-002-DUP	SD-14-003	SD-14-004
ab ID	OIL1*414	OIL1*415	OIL1*418	OIL1*416	OIL1*417
ate Sampled	07/13/92	07/13/92	07/13/92	07/13/92	07/13/92
epth (ft)	0.000 ft	0.000 ft	0.000 ft	0.000 ft	0.000 ft
nions (ug/g)					
Chloride	7300.0000**	5300.0000**	4000.0000**	150.0000	< 4.0500
Nitrite, nitrate - nonspecified	< 0.6000	< 0.6000	< 0.6000	130.0000**	4.0500**
Sulfate	< 90.4000	< 90.4000	< 90.4000	191.0000	< 90.4000
Total phosphates	< 300.0000	6500.0000**	< 300.0000	420.0000	< 7.4900
neral Inorganic Parameters					
pH	6.9700	7.6600	7.5800	7.9000	8.2300

es: ** = Value i ve the background concentration for the depth shown, < = Not detec the value shown, NA = Not analyzed

TOOELE AD-NORTH AREA: NO. 14 - SEWAGE LAGOONS
SURFACE WATER ANALYTICAL RESULTS FOR METALS

Sample ID	SW-14-001	SW-14-001-DUP	SW-14-002
Lab ID	NWTR1*13	NWTR1*17	NWTR1*14
Date Sampled	07/13/92	07/13/92	07/13/92
Depth (ft)	0.000 ft	0.000 ft	0.000 ft
Metals and Cyanide (ug/l)			
Aluminum	< 141.0000	< 141.0000	< 141.0000
Antimony	< 38.0000	< 38.0000	< 38.0000
Arsenic	3.3000**	< 2.5400	2.9800**
Barium	63.5000**	63.8000**	64.0000**
Beryllium	< 5.0000	< 5.0000	< 5.0000
Cadmium	< 4.0100	< 4.0100	< 4.0100
Calcium	107000.0000**	107000.0000**	109000.0000**
Chromium	< 6.0200	< 6.0200	< 6.0200
Cobalt	< 25.0000	< 25.0000	< 25.0000
Copper	< 8.0900	< 8.0900	< 8.0900
Cyanide	< 2.5000	< 2.5000	< 2.5000
Iron	46.7000**	59.1000**	88.7000**
Lead	2.2800**	1.9500**	3.5800**
Magnesium	46700.0000**	45700.0000**	47400.0000**
Manganese	24.3000**	24.5000**	24.7000**
Mercury	< 0.2430	< 0.2430	< 0.2430
Nickel	< 34.3000	< 34.3000	< 34.3000
Potassium	22200.0000**	22000.0000**	22800.0000**
Selenium	< 3.0200	< 3.0200	< 3.0200
Silver	< 4.6000	< 4.6000	< 4.6000
Sodium	211000.0000**	206000.0000**	214000.0000**
Thallium	< 6.9900	< 6.9900	< 6.9900
Vanadium	< 11.0000	< 11.0000	< 11.0000
Zinc	< 21.1000	< 21.1000	< 21.1000

5-9-4

Notes: ** = Anal· was detected at the concentration shown < = Not detected at the val· ·own, NA = Not analyzed

TOOELE AD-NORTH AREA: SWMU NO. 14 - SEWAGE LAGOONS
SURFACE WATER ANALYTICAL RESULTS FOR ORGANIC COMPOUNDS

Sample ID	SW-14-001	SW-14-001-DUP	SW-14-002	SW-14-002-DUP
Lab ID	NWTR1*13	NWTR1*17	NWTR1*14	NWTR1*17
Date Sampled	07/13/92	07/13/92	07/13/92	07/13/92
Depth (ft)	0.000 ft	0.000 ft	0.000 ft	0.000 ft
Volatile Organic Compounds (ug/l)				
Chloroform	< 0.5000	NA	0.6150**	< 0.5000
Semivolatile Organic Compounds (ug/l)				
Heptadecane (TIC)	9.0000**	8.0000**	10.0000**	NA
Pesticides (ug/l)	ND	ND	ND	NA
Herbicides (ug/l)	NA	NA	NA	NA
Total Petroleum Hydrocarbons (ug/l)	NA	NA	NA	NA
Explosives (ug/l)	ND	ND	ND	NA
Dioxins/Furans (ug/l)	NA	NA	NA	NA

5-9-5

Notes: ** = Analyte detected at the concentration shown < = Not detected at the value NA = Not analyzed

TOOELE AD-NORTH AREA: NO. 14 - SEWAGE LAGOONS
SURFACE WATER ANALYTICAL RESULTS FOR GENERAL CHEMICALS

Sample ID	SW-14-001	SW-14-001-DUP	SW-14-002
Lab ID	NWTR1*13	NWTR1*17	NWTR1*14
Date Sampled	07/13/92	07/13/92	07/13/92
Depth (ft)	0.000 ft	0.000 ft	0.000 ft
Anions (ug/l)			
Phosphate	7400.0000**	7400.0000**	7400.0000**
Chloride	410000.0000**	410000.0000**	400000.0000**
Nitrite, nitrate - nonspecified	24.9000**	13.5000**	39.7000**
Sulfate	132000.0000**	132000.0000**	131000.0000**
General Inorganic Parameters	NA	NA	NA

5-9-6

Notes: ** = Anal was detected at the concentration shown < = Not detected at the val shown, NA = Not analyzed

Groundwater Sampling Results

First Round - July, 1992

TOOELE AD-NORTH AREA: SELECTE ITORING AND SOURCE WATER WELLS
GROUNDWATER ANALYTI... RESULTS FOR METALS

Sample ID	A-3	B-1	B-1-DUP	N-134-90	N-135-90	N-136-90	WW-2	WW-2
Lab ID	TNWTR1*7	NWTR1*11	TNWTR1*9	TNWTR1*1	TNWTR1*3	TNWTR1*5	NWTR1*27	NWTR1*27
Date Sampled	07/12/92	07/11/92	07/11/92	07/10/92	07/10/92	07/12/92	07/30/92	07/30/92
Depth (ft)	227.000 ft	293.000 ft	293.000 ft	194.000 ft	237.000 ft	243.000 ft	0.000 ft	500.000 ft
Metals and Cyanide (ug/l)								
Aluminum	< 141.0000	< 141.0000	< 141.0000	28300.0000**	< 141.0000	< 141.0000	< 141.0000	< 141.0000
Antimony	< 38.0000	< 38.0000	< 38.0000	< 38.0000	< 38.0000	< 38.0000	< 38.0000	< 38.0000
Arsenic	< 2.5400	< 2.5400	< 2.5400	33.7000**	< 2.5400	< 2.5400	< 2.5400	< 2.5400
Barium	32.5000**	48.7000**	48.0000**	215.0000**	41.7000**	60.7000**	53.9000**	53.9000**
Beryllium	< 5.0000	< 5.0000	< 5.0000	< 5.0000	< 5.0000	< 5.0000	< 5.0000	< 5.0000
Cadmium	< 4.0100	< 4.0100	< 4.0100	< 4.0100	< 4.0100	< 4.0100	< 4.0100	< 4.0100
Calcium	116000.0000**	116000.0000**	115000.0000**	320000.0000**	118000.0000**	180000.0000**	63000.0000**	63000.0000**
Chromium	8.5800**	< 6.0200	< 6.0200	2760.0000**	< 6.0200	< 6.0200	< 6.0200	< 6.0200
Cobalt	< 25.0000	< 25.0000	< 25.0000	< 25.0000	< 25.0000	< 25.0000	< 25.0000	< 25.0000
Copper	< 8.0900	< 8.0900	< 8.0900	94.2000**	< 8.0900	< 8.0900	8.9900**	8.9900**
Cyanide	< 2.5000	< 2.5000	< 2.5000	< 2.5000	< 2.5000	< 2.5000	< 2.5000	< 2.5000
Iron	< 38.8000	< 38.8000	< 38.8000	37500.0000**	< 38.8000	< 38.8000	< 38.8000	< 38.8000
Lead	< 1.2600	< 1.2600	1.5200**	32.6000**	3.1500**	2.2800**	7.4800**	7.4800**
Magnesium	41400.0000**	51500.0000**	51400.0000**	72300.0000**	55300.0000**	84400.0000**	19200.0000**	19200.0000**
Manganese	18.0000**	24.4000**	21.2000**	439.0000**	85.2000**	136.0000**	< 2.7500	< 2.7500
Mercury	< 0.2430	< 0.2430	< 0.2430	< 0.2430	< 0.2430	< 0.2430	< 0.2430	< 0.2430
Nickel	114.0000**	49.6000**	49.6000**	359.0000**	324.0000**	540.0000**	< 34.3000	< 34.3000
Potassium	3510.0000**	6230.0000**	5820.0000**	9550.0000**	5610.0000**	7560.0000**	2030.0000**	2030.0000**
Selenium	< 3.0200	5.5400**	3.7300**	< 3.0200	4.7900**	11.7000**	< 3.0200	< 3.0200
Silver	< 4.6000	< 4.6000	< 4.6000	< 4.6000	< 4.6000	< 4.6000	< 4.6000	< 4.6000
Sodium	112000.0000**	129000.0000**	130000.0000**	133000.0000**	136000.0000**	142000.0000**	43800.0000**	43800.0000**
Thallium	< 6.9900	< 6.9900	< 6.9900	< 6.9900	< 6.9900	< 6.9900	< 6.9900	< 6.9900
Vanadium	< 11.0000	< 11.0000	< 11.0000	79.8000**	< 11.0000	12.8000**	< 11.0000	< 11.0000
Zinc	< 21.1000	5240.0000**	5340.0000**	2420.0000**	201.0000**	81.9000**	< 21.1000	< 21.1000

otes: ** = Analyte was detected at the concentration shown < = Not detected at the value shown, NA = Not analyzed

TOOELE AD-NORTH AREA: SELECTED MONITORING AND SOURCE WATER WELLS
GROUNDWATER ANALYTICAL RESULTS FOR METALS

Sample ID	WW-3	WW-3-DUP
Lab ID	TNSRC1*1	TNSRC1*2
Date Sampled	05/06/92	05/06/92
Depth (ft)	700.000 ft	700.000 ft
Metals and Cyanide (ug/l)		
Aluminum	< 141.0000	< 141.0000
Antimony	< 38.0000	< 38.0000
Arsenic	2.8800**	2.7700**
Barium	60.6000**	61.9000**
Beryllium	< 5.0000	< 5.0000
Cadmium	< 4.0100	< 4.0100
Calcium	98800.0000**	100000.0000**
Chromium	< 6.0200	< 6.0200
Cobalt	< 25.0000	< 25.0000
Copper	< 8.0900	< 8.0900
Cyanide	< 2.5000	< 2.5000
Iron	< 38.8000	< 38.8000
Lead	< 1.2600	< 1.2600
Magnesium	35600.0000**	36100.0000**
Manganese	12.6000**	6.6200**
Mercury	< 0.2430	< 0.2430
Nickel	< 34.3000	< 34.3000
Potassium	3450.0000**	3470.0000**
Selenium	< 3.0200	< 3.0200
Silver	< 4.6000	< 4.6000
Sodium	96100.0000**	97800.0000**
Thallium	< 6.9900	< 6.9900
Vanadium	< 11.0000	< 11.0000
Zinc	< 21.1000	< 21.1000

Notes: ** = [illegible]e was detected at the concentration shown < = Not detected at the [illegible] shown, NA = Not analyzed

TOOELE AD-NORTH AREA: SELECTEI .TORING AND SOURCE WATER WELLS
GROUNDWATER ANALYTICAL RESULTS FOR ORGANIC COMPOUNDS

Sample ID	A-3	B-1	B-1-DUP	N-134-90	N-135-90	N-136-90	WW-2	WW-3
Lab ID	TNWTR1*7	NWTR1*11	TNWTR1*9	TNWTR1*1	TNWTR1*3	TNWTR1*5	NWTR1*27	TNSRC1*1
Date Sampled	07/12/92	07/11/92	07/11/92	07/10/92	07/10/92	07/12/92	07/30/92	05/06/92
Depth (ft)	227.000 ft	293.000 ft	293.000 ft	194.000 ft	237.000 ft	243.000 ft	500.000 ft	700.000 ft
Volatile Organic Compounds (ug/l)								
1,2-Dichloroethenes (cis and trans)	1.3600**	< 0.5000	< 0.5000	< 0.5000	< 0.5000	< 0.5000	< 0.5000	< 0.5000
Trichloroethene	31.4000**	3.6200**	3.5200**	0.4900**	10.0000**	< 0.5000	< 0.5000	< 0.5000
Chloroform	0.5330**	< 0.5000	< 0.5000	0.5600**	1.0000**	0.5950**	< 0.5000	< 0.5000
Semivolatile Organic Compounds (ug/l)								
Bis (2-ethylhexyl) phthalate	< 4.8000	< 4.8000	< 4.8000	6.5000**	< 4.8000	< 4.8000	< 4.8000	< 4.8000
Hexadecanoic acid, butyl ester (TIC)	NA	NA	NA	NA	NA	NA	NA	4.0000**
Octadecanoic acid, butyl ester (TIC)	NA	NA	NA	NA	NA	NA	NA	5.0000**
'esticides (ug/l)	ND	ND	ND	ND	ND	ND	ND	ND
lerbicides (ug/l)	NA	NA	NA	NA	NA	NA	NA	ND
'otal Petroleum Hydrocarbons (ug/l)	ND	ND	ND	ND	ND	ND	NA	ND
xplosives (ug/l)	ND	ND	ND	ND	ND	ND	ND	ND
)ioxins/Furans (ug/l)	NA	NA	NA	NA	NA	NA	NA	ND

otes: ** = Analyte was detected at the concentration shown < = Not detected at the value shown, NA = Not analyzed

TOOELE AD-NORTH AREA: SELECTED MONITORING AND SOURCE WATER WELLS
GROUNDWATER ANALYTICAL RESULTS FOR ORGANIC COMPOUNDS

Sample ID	WW-3-DUP
Lab ID	TNSRC1*2
Date Sampled	05/06/92
Depth (ft)	700.000 ft
Volatile Organic Compounds (ug/l)	
1,2-Dichloroethenes (cis and trans)	< 0.5000
Trichloroethene	< 0.5000
Chloroform	< 0.5000
Semivolatile Organic Compounds (ug/l)	
Bis (2-ethylhexyl) phthalate	< 4.8000
Hexadecanoic acid, butyl ester (TIC)	NA
Octadecanoic acid, butyl ester (TIC)	NA
Pesticides (ug/l)	ND
Herbicides (ug/l)	ND
Total Petroleum Hydrocarbons (ug/l)	ND
Explosives (ug/l)	ND
Dioxins/Furans (ug/l)	ND

Notes: ** = Ar ` was detected at the concentration shown < = Not detected at the v shown, NA = Not analyzed

TOOELE AD-NORTH AREA: SELECTEI TORING AND SOURCE WATER WELLS
GROUNDWATER ANALYTICAL R...TS FOR GENERAL CHEMICALS

Sample ID	A-3	B-1	B-1-DUP	N-134-90	N-135-90	N-136-90	WW-2	WW-3
Lab ID	TNWTR1*7	NWTR1*11	TNWTR1*9	TNWTR1*1	TNWTR1*3	TNWTR1*5	NWTR1*27	TNSRC1*1
Date Sampled	07/12/92	07/11/92	07/11/92	07/10/92	07/10/92	07/12/92	07/30/92	05/06/92
Depth (ft)	227.000 ft	293.000 ft	293.000 ft	194.000 ft	237.000 ft	243.000 ft	500.000 ft	700.000 ft
Anions (ug/l)								
Phosphate	890.0000**	990.0000**	990.0000**	990.0000**	990.0000**	2000.0000**	< 13.3000	14.8000**
Chloride	330000.0000**	330000.0000**	330000.0000**	440000.0000**	380000.0000**	600000.0000**	66000.0000**	240000.0000**
Nitrite, nitrate - nonspecified	4000.0000**	2000.0000**	2000.0000**	3000.0000**	2800.0000**	7000.0000**	2800.0000**	3200.0000**
Sulfate	130000.0000**	164000.0000**	164000.0000**	183000.0000**	173000.0000**	232000.0000**	28400.0000**	97300.0000**
General Inorganic Parameters								
pH	NA	NA	NA	NA	NA	NA	7.6100	NA

otes: ** = Analyte was detected at the concentration shown < = Not detected at the value shown, NA = Not analyzed

TOOELE AD-NORTH AREA: SELECTED MONITORING AND SOURCE WATER WELLS
GROUNDWATER ANALYTICAL RESULTS FOR GENERAL CHEMICALS

Sample ID	WW-3-DUP
Lab ID	TNSRC1*2
Date Sampled	05/06/92
Depth (ft)	700.000 ft
Anions (ug/l)	
Phosphate	16.8000**
Chloride	240000.0000**
Nitrite, nitrate - nonspecified	3200.0000**
Sulfate	97300.0000**
General Inorganic Parameters	
pH	NA

Notes: ** = ' te was detected at the concentration shown < = Not detected at the ' shown, NA = Not analyzed

Groundwater Sampling Results

Second Round - February, 1993

TOOELE AD-NORTH AREA: SELECT ORING AND SOURCE WATER WELLS
GROUNDWATER ANALY RESULTS FOR METALS

Sample ID	A-3	B-1	N-134-90	N-135-90	N-136-90	N-136-90-DUP
Lab ID	TNWTR1*8	NWTR1*10	TNWTR1*2	TNWTR1*4	NWTR1*34	TNWTR1*6
Date Sampled	02/05/93	02/04/93	02/05/93	02/03/93	02/03/93	02/03/93
Depth (ft)	227.000 ft	293.000 ft	194.000 ft	237.000 ft	243.000 ft	243.000 ft
Metals and Cyanide (ug/l)						
Aluminum	< 141.0000	< 141.0000	< 141.0000	< 141.0000	< 141.0000	< 141.0000
Antimony	< 38.0000	< 38.0000	< 38.0000	< 38.0000	< 38.0000	< 38.0000
Arsenic	< 2.5400	< 2.5400	< 2.5400	< 2.5400	< 2.5400	< 2.5400
Barium	31.5000**	45.6000**	56.7000**	40.1000**	65.2000**	63.1000**
Beryllium	< 5.0000	< 5.0000	< 5.0000	< 5.0000	< 5.0000	< 5.0000
Cadmium	< 4.0100	< 4.0100	< 4.0100	< 4.0100	< 4.0100	< 4.0100
Calcium	140000.0000**	124000.0000**	145000.0000**	132000.0000**	210000.0000**	207000.0000**
Chromium	< 6.0200	< 6.0200	< 6.0200	< 6.0200	7.1100**	< 6.0200
Cobalt	< 25.0000	< 25.0000	< 25.0000	< 25.0000	< 25.0000	< 25.0000
Copper	< 8.0900	< 8.0900	< 8.0900	< 8.0900	< 8.0900	< 8.0900
Cyanide	< 2.5000	< 2.5000	< 2.5000	< 2.5000	< 2.5000	< 2.5000
Iron	< 38.8000	< 38.8000	< 38.8000	< 38.8000	75.9000**	< 38.8000
Lead	< 1.2600	< 1.2600	< 1.2600	< 1.2600	< 1.2600	< 1.2600
Magnesium	46300.0000**	53300.0000**	64000.0000**	58300.0000**	94300.0000**	91800.0000**
Manganese	99.3000**	< 2.7500	83.2000**	68.0000**	102.0000**	101.0000**
Mercury	< 0.2430	< 0.2430	< 0.2430	< 0.2430	< 0.2430	< 0.2430
Molybdenum	NA	NA	NA	NA	NA	NA
Nickel	477.0000**	< 34.3000	349.0000**	219.0000**	370.0000**	362.0000**
Potassium	5040.0000**	5640.0000**	7240.0000**	6640.0000**	8070.0000**	8130.0000**
Selenium	< 3.0200	4.1500**	6.3900**	5.5400**	14.2000**	14.2000**
Silver	< 4.6000	< 4.6000	< 4.6000	< 4.6000	< 4.6000	< 4.6000
Sodium	123000.0000**	132000.0000**	135000.0000**	145000.0000**	153000.0000**	148000.0000**
Thallium	< 6.9900	< 6.9900	< 6.9900	< 6.9900	< 6.9900	< 6.9900
Vanadium	< 11.0000	< 11.0000	< 11.0000	< 11.0000	< 11.0000	< 11.0000
Zinc	< 21.1000	350.0000**	628.0000**	264.0000**	< 21.1000	< 21.1000

5-9-18

Notes: ** = Analyte was detected at the concentration shown < = Not detected at the value shown, NA = Not analyzed

GROUNDWATER ANALYTICAL RESULTS FOR ORGANIC COMPOUNDS

Sample ID	A-3	B-1	N-134-90	N-135-90	N-135-90	N-136-90	N-136-90-DUP	N-136-90
Lab ID	TNWTR1*8	NWTR1*10	TNWTR1*2	TNWTR1*4	TNWTR1*4	NWTR1*34	TNWTR1*6	NWTR1*34
Date Sampled	02/05/93	02/04/93	02/05/93	02/03/93	02/03/93	02/03/93	02/03/93	02/03/93
Depth (ft)	227.000 ft	293.000 ft	194.000 ft	237.000 ft	250.000 ft	243.000 ft	243.000 ft	250.000 ft
Volatile Organic Compounds (ug/l)								
1,2-Dichloroethenes (cis and trans)	1.6000**	< 0.5000	< 0.5000	< 0.5000	< 0.5000	< 0.5000	< 0.5000	< 0.5000
Chloroform	1.1000**	0.8800**	< 0.5000	< 0.5000	< 0.5000	< 0.5000	< 0.5000	< 0.5000
Trichloroethene	32.0000**	2.7000**	< 0.5000	8.5000**	8.5000**	< 0.5000	< 0.5000	< 0.5000
Semivolatile Organic Compounds (ug/l)	ND	ND	ND	ND	ND	ND	ND	ND
Pesticides (ug/l)	NA	NA	NA	NA	NA	NA	NA	NA
Herbicides (ug/l)	NA	NA	NA	NA	NA	NA	NA	NA
Total Petroleum Hydrocarbons (ug/l)	ND	ND	ND	ND	ND	ND	NA	ND
Explosives (ug/l)	ND	ND	ND	ND	ND	ND	ND	ND
Dioxins/Furans (ug/l)	NA	NA	NA	NA	NA	NA	NA	NA

Notes: ** = Analyte was detected at the concentration shown < = Not detected at the value shown, NA = Not analyzed

TOOELE AD-NORTH AREA: SELEC ... ORING AND SOURCE WATER WELLS
GROUNDWATER ANALYTICAL ... LTS FOR ORGANIC COMPOUNDS

Sample ID	N-136-90-DUP
Lab ID	TNWTR1*6
Date Sampled	02/03/93
Depth (ft)	250.000 ft
Volatile Organic Compounds (ug/l)	
1,2-Dichloroethenes (cis and trans)	< 0.5000
Chloroform	< 0.5000
Trichloroethene	< 0.5000
Semivolatile Organic Compounds (ug/l)	ND
Pesticides (ug/l)	NA
Herbicides (ug/l)	NA
Total Petroleum Hydrocarbons (ug/l)	NA
Explosives (ug/l)	ND
Dioxins/Furans (ug/l)	NA

D-9-20

Notes: ** = Analyte was detected at the concentration shown < = Not detected at the value shown, NA = Not analyzed

TOOELE AD-NORTH AREA: SELECTED MONITORING AND SOURCE R WELLS
GROUNDWATER ANALYTICAL RESULTS FOR GENERAL CHEMICALS

Sample ID	A-3	B-1	N-134-90	N-135-90	N-136-90	N-136-90-DUP
Lab ID	TNWTR1*8	NWTR1*10	TNWTR1*2	TNWTR1*4	NWTR1*34	TNWTR1*6
Date Sampled	02/05/93	02/04/93	02/05/93	02/03/93	02/03/93	02/03/93
Depth (ft)	227.000 ft	293.000 ft	194.000 ft	237.000 ft	243.000 ft	243.000 ft
Anions (ug/l)						
Chloride	330000.0000**	330000.0000**	410000.0000**	380000.0000**	600000.0000**	600000.0000**
Nitrite, nitrate - nonspecified	4800.0000**	2800.0000**	3800.0000**	3400.0000**	8600.0000**	7200.0000**
Phosphate	2100.0000**	2100.0000**	4200.0000**	3500.0000**	3500.0000**	2400.0000**
Sulfate	134000.0000**	159000.0000**	179000.0000**	170000.0000**	238000.0000**	239000.0000**
General Inorganic Parameters						
Alkalinity - bicarbonate (ug/l)	624000.0000**	656000.0000**	952000.0000**	400000.0000**	520000.0000**	586000.0000**
Ammonia (ug/l)	< 20.0000	< 20.0000	30.4000**	< 20.0000	30.9000**	20.8000**
Specific Conductivity (uhos/cm)	1570.0000**	1630.0000**	1860.0000**	1760.0000**	2400.0000**	2510.0000**
pH	NA	NA	NA	7.8100	7.8400	7.8100

Notes: ** = Analyte was detected at the concentration shown < = Not detected at the value shown, NA = Not analyzed

Table 5-10

TABLE 5-10

AED DEMILITARIZATION TEST FACILITY (SWMU 19) ANALYTICAL RESULTS

TOOELE AD-NORTH AREA: SWMU NO. 19 - AED DEMILITARIZATION TEST FACILITY
SOIL ANALYTICAL RESULTS FOR METALS

Sample ID	SS-19-001	SS-19-002	SS-19-003	SS-19-004	SS-19-005	SS-19-006	SS-19-007	SS-19-008
Lab ID	OIL1*419	OIL1*420	OIL1*421	OIL1*422	OIL1*423	OIL1*424	OIL1*425	OIL1*426
Date Sampled	07/08/92	07/08/92	07/08/92	07/08/92	07/08/92	07/08/92	07/08/92	07/08/92
Depth (ft)	0.000 ft	0.000 ft	0.000 ft	0.000 ft	0.000 ft	0.000 ft	0.000 ft	0.000 ft
Metals and Cyanide (ug/g)								
Aluminum	4310.0000	5160.0000	3780.0000	4780.0000	2970.0000	1500.0000	3960.0000	4300.0000
Antimony	< 7.1400	< 7.1400	< 7.1400	< 7.1400	< 7.1400	< 7.1400	< 7.1400	< 7.1400
Arsenic	3.9000	3.5100	10.8000	2.3600	2.2200	3.3900	3.0300	3.3700
Barium	74.7000	80.2000	50.4000	58.2000	54.4000	30.3000	52.4000	63.9000
Beryllium	< 0.5000	0.5370	0.5960	0.5300	< 0.5000	< 0.5000	< 0.5000	< 0.5000
Cadmium	< 0.7000	1.3400**	< 0.7000	< 0.7000	< 0.7000	< 0.7000	< 0.7000	< 0.7000
Calcium	18900.0000	18800.0000	1920.0000	3540.0000	5890.0000	23500.0000	3270.0000	4970.0000
Chromium	5.5600	7.5200	6.7200	5.6800	6.1500	< 4.0500	4.7700	4.9100
Cobalt	2.2900	2.3100	2.2900	2.4500	1.8000	< 1.4200	2.2700	2.3700
Copper	7.1400	9.5800	14.7000	5.6800	5.5400	2.4300	6.0500	6.5000
Cyanide	< 0.9200	< 0.9200	< 0.9200	< 0.9200	< 0.9200	< 0.9200	< 0.9200	< 0.9200
Iron	5780.0000	6680.0000	5180.0000	5440.0000	3760.0000	2820.0000	4860.0000	5160.0000
Lead	5.9000	7.6000	10.0000	7.0000	55.0000**	2.9900	5.7500	5.1700
Magnesium	3600.0000	4430.0000	1760.0000	2160.0000	1780.0000	2200.0000	1830.0000	2030.0000
Manganese	187.0000	224.0000	161.0000	167.0000	147.0000	79.7000	164.0000	187.0000
Mercury	< 0.0500	< 0.0500	0.0567**	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500
Nickel	5.4000	5.9700	5.3900	4.7100	3.6700	2.8100	4.9000	5.0100
Potassium	1100.0000	1450.0000	1080.0000	1420.0000	943.0000	319.0000	1170.0000	1310.0000
Selenium	< 0.2500	0.4580**	< 0.2500	< 0.2500	< 0.2500	< 0.2500	< 0.2500	< 0.2500
Silver	< 0.5890	< 0.5890	< 0.5890	< 0.5890	< 0.5890	< 0.5890	< 0.5890	< 0.5890
Sodium	212.0000	233.0000	178.0000	176.0000	184.0000	179.0000	171.0000	175.0000
Thallium	< 6.6200	< 6.6200	< 6.6200	< 6.6200	< 6.6200	< 6.6200	< 6.6200	< 6.6200
Vanadium	7.6200	9.3600	6.1000	8.0400	5.3100	4.7400	6.7500	7.4500
Zinc	32.5000	49.8000	135.0000**	23.9000	29.0000	12.3000	30.5000	24.2000

Notes: ** = Vr' 's above the background concentration for the depth shown, < = No' :ted at the value shown, NA = Not analyzed

TOOELE AD-NORTH AREA: SWMU NO. 1 ED DEMILITARIZATION TEST FACILITY
SOIL ANALYTICAL ..SULTS FOR METALS

Sample ID	SS-19-009	SS-19-010	SS-19-010-DUP	SS-19-011	SS-19-012
Lab ID	OILI*427	OILI*428	OILI*431	OILI*429	OILI*430
Date Sampled	07/08/92	07/08/92	07/08/92	07/08/92	07/08/92
Depth (ft)	0.000 ft	0.000 ft	0.000 ft	0.000 ft	0.000 ft
Metals and Cyanide (ug/g)					
Aluminum	4560.0000	3670.0000	4110.0000	4620.0000	3920.0000
Antimony	< 7.1400	< 7.1400	< 7.1400	< 7.1400	< 7.1400
Arsenic	3.4000	2.5600	3.5400	4.2600	7.4900
Barium	77.5000	71.0000	74.1000	74.9000	76.1000
Beryllium	0.5890	< 0.5000	< 0.5000	0.7060	0.6110
Cadmium	< 0.7000	1.7600**	1.5500**	5.3200**	5.2600**
Calcium	10400.0000	3920.0000	4000.0000	6320.0000	33900.0000
Chromium	6.1900	5.0500	5.1400	26.9000**	36.6000**
Cobalt	3.0000	2.2900	2.5300	3.1100	4.9600
Copper	7.2400	7.5000	8.2200	78.7000**	411.0000**
Cyanide	< 0.9200	< 0.9200	< 0.9200	< 0.9200	< 0.9200
Iron	5440.0000	5430.0000	5690.0000	12500.0000	27800.0000**
Lead	5.6400	6.9000	6.2400	45.7000	137.0000**
Magnesium	2680.0000	1940.0000	2140.0000	2830.0000	4380.0000
Manganese	194.0000	162.0000	174.0000	201.0000	357.0000
Mercury	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500
Nickel	5.5100	5.1000	5.2000	13.2000	27.6000**
Potassium	1570.0000	1180.0000	1310.0000	1220.0000	1170.0000
Selenium	< 0.2500	< 0.2500	< 0.2500	< 0.2500	< 0.2500
Silver	< 0.5890	< 0.5890	< 0.5890	< 0.5890	< 0.5890
Sodium	200.0000	180.0000	187.0000	243.0000	328.0000
Thallium	< 6.6200	< 6.6200	< 6.6200	< 6.6200	< 6.6200
Vanadium	9.3000	6.4500	7.1900	7.4400	6.8800
Zinc	27.1000	36.0000	38.5000	3660.0000**	679.0000**

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Notes: ** = Value is above the background concentration for the depth shown, < = Not detected at the value shown, NA = Not analyzed

TOOELE AD-NORTH AREA: SWMU NO. 19 - AED DEMILITARIZATION TEST FACILITY
SOIL ANALYTICAL RESULTS FOR ORGANIC COMPOUNDS

Sample ID	SS-19-001	SS-19-002	SS-19-003	SS-19-004	SS-19-005	SS-19-006	SS-19-007	SS-19-008
Lab ID	OIL1*419	OIL1*420	OIL1*421	OIL1*422	OIL1*423	OIL1*424	OIL1*425	OIL1*426
Date Sampled	07/08/92	07/08/92	07/08/92	07/08/92	07/08/92	07/08/92	07/08/92	07/08/92
Depth (ft)	0.000 ft	0.000 ft	0.000 ft	0.000 ft	0.000 ft	0.000 ft	0.000 ft	0.000 ft
Volatile Organic Compounds (ug/g)								
Trichlorofluoromethane	< 0.0059	< 0.0059	< 0.0059	< 0.0059	< 0.0059	< 0.0059	< 0.0059	< 0.0059
Semivolatile Organic Compounds (ug/g)								
2,6,10,14-Tetramethylpentadecane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
Benzo[k]fluoranthene	< 0.0660	< 0.0660	0.0850**	< 0.0660	< 0.0660	< 0.0660	< 0.0660	< 0.0660
Bis (2-ethylhexyl) phthalate	< 0.6200	< 0.6200	2.0000**	< 0.6200	< 0.6200	< 0.6200	< 0.6200	< 0.6200
Di-n-butyl phthalate	< 0.0610	< 0.0610	0.4600**	< 0.0610	< 0.0610	< 0.0610	< 0.0610	< 0.0610
Eicosane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	< 0.0680	< 0.0680	0.2300**	< 0.0680	< 0.0680	< 0.0680	< 0.0680	< 0.0680
Heneicosane	NA	NA	NA	NA	NA	NA	NA	NA
Heptadecane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
Hexadecane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
Octadecane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	< 0.0330	< 0.0330	0.0410**	< 0.0330	< 0.0330	< 0.0330	< 0.0330	< 0.0330
Pyrene	< 0.0330	< 0.0330	0.2300**	< 0.0330	< 0.0330	< 0.0330	< 0.0330	< 0.0330
Tetradecane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
Pesticides (ug/g)	ND	ND	ND	ND	ND	ND	ND	ND
Herbicides (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA
Total Petroleum Hydrocarbons (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA
Explosives (ug/g)								
Cyclonite (RDX)	< 0.5870	< 0.5870	< 0.5870	6.7700**	8.4100**	< 0.5870	< 0.5870	< 0.5870
Dioxins/Furans (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA

Notes: ** = / te was detected at the concentration shown < = Not detected at th shown, NA = Not analyzed

TOOELE AD-NORTH AREA: SWMU NO. ' ED DEMILITARIZATION TEST FACILITY
SOIL ANALYTICAL RESU. FOR ORGANIC COMPOUNDS

Sample ID	SS-19-009	SS-19-010	SS-19-010-DUP	SS-19-011	SS-19-012
Lab ID	OIL1*427	OIL1*428	OIL1*431	OIL1*429	OIL1*430
Date Sampled	07/08/92	07/08/92	07/08/92	07/08/92	07/08/92
Depth (ft)	0.000 ft	0.000 ft	0.000 ft	0.000 ft	0.000 ft
Volatile Organic Compounds (ug/g)					
Trichlorofluoromethane	0.0057**	< 0.0059	0.0076**	< 0.0059	< 0.0059
Semivolatile Organic Compounds (ug/g)					
2,6,10,14-Tetramethylpentadecane (TIC)	NA	100.0000**	100.0000**	NA	NA
Benzo[k]fluoranthene	< 0.0660	< 0.7000	< 0.7000	< 0.7000	< 0.7000
Bis (2-ethylhexyl) phthalate	< 0.6200	< 6.0000	< 6.0000	< 6.0000	< 6.0000
Di-n-butyl phthalate	< 0.0610	< 0.6000	< 0.6000	8.0000**	< 0.6000
Eicosane (TIC)	NA	NA	100.0000**	NA	NA
Fluoranthene	< 0.0680	< 0.7000	< 0.7000	< 0.7000	< 0.7000
Heneicosane	NA	NA	70.0000**	NA	NA
Heptadecane (TIC)	NA	100.0000**	100.0000**	NA	NA
Hexadecane (TIC)	NA	100.0000**	NA	NA	NA
Octadecane (TIC)	NA	NA	100.0000**	NA	NA
Phenanthrene	< 0.0330	< 0.3000	< 0.3000	< 0.3000	< 0.3000
Pyrene	< 0.0330	1.0000**	1.0000**	< 0.3000	< 0.3000
Tetradecane (TIC)	NA	30.0000**	30.0000**	NA	NA
Pesticides (ug/g)	ND	ND	ND	ND	ND
Herbicides (ug/g)	NA	NA	NA	NA	NA
Total Petroleum Hydrocarbons (ug/g)	NA	NA	NA	NA	NA
Explosives (ug/g)					
Cyclonite (RDX)	< 0.5870	< 0.5870	< 0.5870	< 0.5870	0.7980**
Dioxins/Furans (ug/g)	NA	NA	NA	NA	NA

Notes: ** = Analyte was detected at the concentration shown < = Not detected at the value shown, NA = Not analyzed

TOOELE AD-NORTH AREA: SWMU NO. 19 - AED DEMILITARIZATION TEST FACILITY
SOIL ANALYTICAL RESULTS FOR GENERAL CHEMICALS

Sample ID	SS-19-001	SS-19-002	SS-19-003	SS-19-004	SS-19-005	SS-19-006	SS-19-007	SS-19-008
Lab ID	OIL1*419	OIL1*420	OIL1*421	OIL1*422	OIL1*423	OIL1*424	OIL1*425	OIL1*426
Date Sampled	07/08/92	07/08/92	07/08/92	07/08/92	07/08/92	07/08/92	07/08/92	07/08/92
Depth (ft)	0.000 ft	0.000 ft	0.000 ft	0.000 ft	0.000 ft	0.000 ft	0.000 ft	0.000 ft
Anions (ug/g)								
Chloride	< 6.0500	< 6.0500	< 6.0500	< 6.0500	< 6.0500	< 6.0500	< 6.0500	< 6.0500
Nitrite, nitrate - nonspecified	0.9390	1.3000	2.2300	1.3200	3.9100**	9.1700**	3.0000**	2.2600
Total phosphates	250.0000	310.0000	270.0000	300.0000	150.0000	210.0000	220.0000	240.0000
General Inorganic Parameters								
pH	9.1000	8.8000	7.6500	9.0400	8.7500	9.4000	8.9300	8.7900

Notes: ** = V is above the background concentration for the depth shown, < = No' 'ected at the value shown, NA = Not analyzed

TOOELE AD-NORTH AREA: SWMU NO. ‹ED DEMILITARIZATION TEST FACILITY
SOIL ANALYTICAL RESULıs FOR GENERAL CHEMICALS

Sample ID	SS-19-009	SS-19-010	SS-19-010-DUP	SS-19-011	SS-19-012
Lab ID	OIL1*427	OIL1*428	OIL1*431	OIL1*429	OIL1*430
Date Sampled	07/08/92	07/08/92	07/08/92	07/08/92	07/08/92
Depth (ft)	0.000 ft	0.000 ft	0.000 ft	0.000 ft	0.000 ft
Anions (ug/g)					
Chloride	< 6.0500	< 6.0500	< 6.0500	< 6.0500	150.0000
Nitrite, nitrate - nonspecified	3.2400**	< 0.6000	< 0.6000	11.0000**	28.0000**
Total phosphates	280.0000	250.0000	160.0000	1200.0000**	1200.0000**
General Inorganic Parameters					
pH	8.8400	7.5900	7.5800	7.1600	8.5300

Notes: ** = Value is above the background concentration for the depth shown, < = Not detected at the value shown, NA = Not analyzed

Table 5-11

TABLE 5-11

AED DEACTIVATION FURNACE SITE
(SWMU 20)
ANALYTICAL RESULTS

TOOELE AD-NORTH AREA: SWMU NO. 20 - AED DEACTIVATION FURNACE SITE
SOIL ANALYTICAL RESULTS FOR METALS

Sample ID	SS-20-001	SS-20-001-DUP	SS-20-002	SS-20-003	SS-20-004	SS-20-005	SS-20-006	SS-20-00
Lab ID	OIL1*434	OIL1*450	OIL1*435	OIL1*436	OIL1*437	OIL1*438	OIL1*439	OIL1*440
Date Sampled	07/09/92	07/09/92	07/09/92	07/09/92	07/09/92	07/09/92	07/09/92	07/09/92
Depth (ft)	0.000 ft	0.000 ft	0.000 ft	0.000 ft	0.000 ft	0.000 ft	0.000 ft	0.000 ft
Metals and Cyanide (ug/g)								
Aluminum	6230.0000	4370.0000	3260.0000	3460.0000	4100.0000	3730.0000	6880.0000	4300.0000
Antimony	16.9000**	< 7.1400	< 7.1400	< 7.1400	< 7.1400	10.7000**	39.7000**	< 7.1400
Arsenic	8.0100	8.0000	4.8900	6.0000	6.6400	5.8800	6.1600	4.9700
Barium	71.8000	75.9000	55.5000	63.2000	51.5000	70.5000	275.0000**	74.9000
Beryllium	1.0200	0.8870	< 0.5000	< 0.5000	< 0.5000	< 0.5000	< 0.5000	< 0.5000
Cadmium	21.6000**	20.7000**	< 0.7000	2.2600**	< 0.7000	1.7400**	20.1000**	< 0.7000
Calcium	29000.0000	19500.0000	27700.0000	45100.0000	27800.0000	48500.0000	46200.0000	44400.0000
Chromium	50.2000**	45.0000**	6.4100	7.2900	6.8800	15.5000	63.8000**	7.7300
Cobalt	5.2700	4.6600	2.2300	2.4700	2.1500	2.3100	5.5100	2.4400
Copper	2480.0000**	132.0000**	12.3000	25.5000**	5.0000	13.9000	202.0000**	10.8000
Cyanide	< 0.9200	< 0.9200	< 0.9200	< 0.9200	< 0.9200	< 0.9200	< 0.9200	< 0.9200
Iron	43800.0000**	42500.0000**	4490.0000	4490.0000	4780.0000	7920.0000	22800.0000	6260.0000
Lead	794.0000**	840.0000**	121.0000**	173.0000**	12.0000	41.8000	2050.0000**	37.1000
Magnesium	2750.0000	2490.0000	3920.0000	3770.0000	2440.0000	3560.0000	5130.0000	3740.0000
Manganese	259.0000	232.0000	129.0000	159.0000	166.0000	137.0000	293.0000	174.0000
Mercury	0.1050**	0.0691**	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500
Nickel	29.4000**	25.0000**	4.5900	5.7200	5.8000	8.4800	31.9000**	6.1200
Potassium	1110.0000	904.0000	790.0000	784.0000	992.0000	735.0000	1590.0000	1190.0000
Selenium	< 0.2500	< 0.2500	< 0.2500	< 0.2500	< 0.2500	< 0.2500	< 0.2500	< 0.2500
Silver	< 0.5890	< 0.5890	< 0.5890	< 0.5890	< 0.5890	< 0.5890	< 0.5890	< 0.5890
Sodium	144.0000	245.0000	216.0000	228.0000	245.0000	383.0000	571.0000	413.0000
Thallium	20.0000**	11.0000**	< 6.6200	< 6.6200	< 6.6200	< 6.6200	16.8000**	< 6.6200
Vanadium	10.1000	5.9200	9.1500	10.3000	10.9000	13.5000	15.7000	12.5000
Zinc	1760.0000**	929.0000**	31.4000	1760.0000**	26.4000	104.0000	727.0000**	82.3000

Notes: ** = 'ue is above the background concentration for the depth shown, < = N detected at the value shown, NA = Not analyzed

TOOELE AD-NORTH AREA: SWMU NO. AED DEACTIVATION FURNACE SITE
SOIL ANALYTICAL RESULTS FOR METALS

Sample ID	SS-20-008	SS-20-009	SS-20-010	SS-20-011	SS-20-012	SS-20-012-DUP	SS-20-013	SS-20-014
Lab ID	OIL1*441	OIL1*442	OIL1*443	OIL1*444	OIL1*445	OIL1*451	OIL1*446	OIL1*447
Date Sampled	07/10/92	07/10/92	07/10/92	07/10/92	07/10/92	07/10/92	07/10/92	07/10/92
Depth (ft)	0.000 ft	0.000 ft	0.000 ft	0.000 ft	0.000 ft	0.000 ft	0.000 ft	0.000 ft
Metals and Cyanide (ug/g)								
Aluminum	7140.0000	6190.0000	3090.0000	6220.0000	3590.0000	3280.0000	3210.0000	14500.0000
Antimony	< 7.1400	< 7.1400	< 7.1400	< 7.1400	12.0000**	< 7.1400	< 7.1400	203.0000**
Arsenic	4.3700	5.0000	5.6700	3.9600	6.5000	5.6000	4.8900	9.3000
Barium	104.0000	110.0000	72.2000	90.1000	199.0000	188.0000	57.0000	5600.0000**
Beryllium	0.6200	< 0.5000	< 0.5000	< 0.5000	< 0.5000	< 0.5000	< 0.5000	0.5780
Cadmium	< 0.7000	< 0.7000	0.8530**	< 0.7000	8.1000**	5.9800**	< 0.7000	109.0000**
Calcium	8550.0000	13800.0000	26700.0000	7340.0000	27900.0000	34100.0000	15100.0000	33500.0000
Chromium	10.0000	9.3200	5.8300	8.2200	8.6200	19.1000	4.8500	131.0000**
Cobalt	3.8000	3.7300	1.9100	3.6500	2.0600	2.0900	1.8700	5.7700
Copper	12.6000	15.0000	22.2000	9.6800	116.0000**	131.0000**	8.2600	2000.0000**
Cyanide	< 0.9200	< 0.9200	< 0.9200	< 0.9200	< 0.9200	< 0.9200	< 0.9200	1.3200**
Iron	8190.0000	7530.0000	4360.0000	7050.0000	6900.0000	6890.0000	4260.0000	26500.0000**
Lead	22.2000	30.1000	57.3000**	15.0000	2540.0000**	912.0000**	22.4000	21000.0000**
Magnesium	3610.0000	3730.0000	3010.0000	3220.0000	3370.0000	2930.0000	1440.0000	9450.0000
Manganese	293.0000	398.0000	128.0000	246.0000	145.0000	145.0000	98.8000	283.0000
Mercury	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500
Nickel	8.8600	11.2000	5.0800	7.5300	6.8200	8.2100	4.2800	34.0000**
Potassium	2230.0000	2040.0000	731.0000	2410.0000	898.0000	738.0000	600.0000	1620.0000
Selenium	< 0.2500	< 0.2500	< 0.2500	< 0.2500	< 0.2500	< 0.2500	< 0.2500	< 0.2500
Silver	< 0.5890	< 0.5890	< 0.5890	< 0.5890	< 0.5890	< 0.5890	< 0.5890	1.6400**
Sodium	233.0000	270.0000	385.0000	211.0000	281.0000	296.0000	181.0000	630.0000
Thallium	< 6.6200	< 6.6200	< 6.6200	< 6.6200	< 6.6200	< 6.6200	< 6.6200	26.2000**
Vanadium	12.4000	11.2000	8.2600	11.6000	8.5200	7.1700	8.2500	13.7000
Zinc	55.1000	71.0000	204.0000**	49.6000	393.0000**	307.0000**	20.2000	2840.0900**

otes: ** = Value is above the background concentration for the depth shown, < = Not detected at the value shown, NA = Not analyzed

TOOELE AD-NORTH AREA: SWMU NO. 20 - AED DEACTIVATION FURNACE SITE

SOIL ANALYTICAL RESULTS FOR METALS

Sample ID	SS-20-015	SS-20-016
Lab ID	OIL1*448	OIL1*449
Date Sampled	07/10/92	07/10/92
Depth (ft)	0.000 ft	0.000 ft
Metals and Cyanide (ug/g)		
Aluminum	5980.0000	5130.0000
Antimony	11.6000**	< 7.1400
Arsenic	5.9600	7.5700
Barium	311.0000**	322.0000**
Beryllium	0.5510	< 0.5000
Cadmium	9.4600**	9.5600**
Calcium	9180.0000	15000.0000
Chromium	19.9000	94.0000**
Cobalt	3.5600	3.4600
Copper	233.0000**	152.0000**
Cyanide	< 0.9200	< 0.9200
Iron	8710.0000	9190.0000
Lead	2410.0000**	1260.0000**
Magnesium	3480.0000	3350.0000
Manganese	262.0000	245.0000
Mercury	< 0.0500	< 0.0500
Nickel	11.3000	132.0000**
Potassium	1700.0000	1530.0000
Selenium	< 0.2500	< 0.2500
Silver	< 0.5890	< 0.5890
Sodium	237.0000	265.0000
Thallium	< 6.6200	< 6.6200
Vanadium	8.8200	9.4300
Zinc	442.0000**	465.0000**

Notes: ** = ... e is above the background concentration for the depth shown, < = N... tected at the value shown, NA = Not analyzed

TOOELE AD-NORTH AREA: SWMU NO. AED DEACTIVATION FURNACE SITE
SOIL ANALYTICAL RESUL.. FOR ORGANIC COMPOUNDS

Sample ID	SS-20-001	SS-20-001-DUP	SS-20-002	SS-20-003	SS-20-004	SS-20-005	SS-20-006	SS-20-007
Lab ID	OIL1*434	OIL1*450	OIL1*435	OIL1*436	OIL1*437	OIL1*438	OIL1*439	OIL1*440
Date Sampled	07/09/92	07/09/92	07/09/92	07/09/92	07/09/92	07/09/92	07/09/92	07/09/92
Depth (ft)	0.000 ft	0.000 ft	0.000 ft	0.000 ft	0.000 ft	0.000 ft	0.000 ft	0.000 ft
Volatile Organic Compounds (ug/g)								
Ethylbenzene	< 0.0017	< 0.0017	< 0.0017	< 0.0017	< 0.0017	< 0.0017	< 0.0017	< 0.0017
Trichlorofluoromethane	< 0.0059	< 0.0059	< 0.0059	< 0.0059	< 0.0059	< 0.0059	< 0.0059	< 0.0059
Xylenes	< 0.0015	< 0.0015	< 0.0015	< 0.0015	< 0.0015	< 0.0015	< 0.0015	0.0046**
Toluene	< 0.0008	< 0.0008	< 0.0008	< 0.0008	< 0.0008	< 0.0008	< 0.0008	< 0.0008
Semivolatile Organic Compounds (ug/g)								
Dimethyl phthalate	< 4.0000	< 4.0000	< 4.0000	< 4.0000	< 4.0000	< 8.0000	< 8.0000	< 8.0000
Phenanthrene	< 0.8000	< 0.8000	< 0.8000	< 0.8000	< 0.8000	< 2.0000	< 2.0000	< 2.0000
Pesticides (ug/g)	ND	ND	ND	ND	ND	ND	ND	ND
Herbicides (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA
Total Petroleum Hydrocarbons (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA
Explosives (ug/g)								
2,4,6-Trinitrotoluene	< 0.4560	< 0.4560	< 0.4560	< 0.4560	< 0.4560	< 0.4560	< 0.4560	< 0.4560
2,4-Dinitrotoluene	< 4.0000	< 4.0000	< 4.0000	< 4.0000	< 4.0000	< 7.0000	< 7.0000	< 7.0000
Dioxins/Furans (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA

otes: ** = Analyte was detected at the concentration shown < = Not detected at the value shown, NA = Not analyzed

TOOELE AD-NORTH AREA: SWMU NO. 20 - AED DEACTIVATION FURNACE SITE
SOIL ANALYTICAL RESULTS FOR ORGANIC COMPOUNDS

Sample ID	SS-20-008	SS-20-009	SS-20-010	SS-20-011	SS-20-012	SS-20-012-DUP	SS-20-013	SS-20-014
Lab ID	OIL1*441	OIL1*442	OIL1*443	OIL1*444	OIL1*445	OIL1*451	OIL1*446	OIL1*447
Date Sampled	07/10/92	07/10/92	07/10/92	07/10/92	07/10/92	07/10/92	07/10/92	07/10/92
Depth (ft)	0.000 ft	0.000 ft	0.000 ft	0.000 ft	0.000 ft	0.000 ft	0.000 ft	0.000 ft
Volatile Organic Compounds (ug/g)								
Ethylbenzene	< 0.0017	< 0.0017	< 0.0017	< 0.0017	< 0.0017	< 0.0017	< 0.0017	< 0.0017
Trichlorofluoromethane	< 0.0059	< 0.0059	< 0.0059	< 0.0059	< 0.0059	< 0.0059	< 0.0059	< 0.0059
Xylenes	< 0.0015	< 0.0015	< 0.0015	< 0.0015	< 0.0015	< 0.0015	< 0.0015	< 0.0015
Toluene	< 0.0008	< 0.0008	< 0.0008	< 0.0008	< 0.0008	< 0.0008	< 0.0008	< 0.0008
Semivolatile Organic Compounds (ug/g)								
Dimethyl phthalate	< 3.0000	< 8.0000	< 8.0000	0.2600**	< 8.0000	< 8.0000	< 0.1700	< 8.0000
Phenanthrene	< 0.7000	< 2.0000	< 2.0000	< 0.0330	< 2.0000	< 2.0000	< 0.0330	2.5000**
Pesticides (ug/g)	ND	ND	ND	ND	ND	ND	ND	ND
Herbicides (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA
Total Petroleum Hydrocarbons (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA
Explosives (ug/g)								
2,4,6-Trinitrotoluene	< 0.4560	< 0.4560	1.4400**	< 0.4560	< 0.4560	< 0.4560	< 0.4560	< 0.4560
2,4-Dinitrotoluene	< 3.0000	< 7.0000	< 7.0000	< 0.1400	< 7.0000	< 7.0000	< 0.1400	< 7.0000
Dioxins/Furans (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA

Notes: ** = Analyte was detected at the concentration shown < = Not detected at the value shown, NA = Not analyzed

TOOELE AD-NORTH AREA: SWMU NO. AED DEACTIVATION FURNACE SITE
SOIL ANALYTICAL RESUL.. FOR ORGANIC COMPOUNDS

Sample ID	SS-20-015	SS-20-016
Lab ID	OIL1*448	OIL1*449
Date Sampled	07/10/92	07/10/92
Depth (ft)	0.000 ft	0.000 ft
Volatile Organic Compounds (ug/g)		
Ethylbenzene	0.0019**	< 0.0017
Trichlorofluoromethane	0.0074**	0.0062**
Xylenes	0.0071**	< 0.0015
Toluene	0.0017**	< 0.0008
Semivolatile Organic Compounds (ug/g)		
Dimethyl phthalate	< 3.0000	< 8.0000
Phenanthrene	< 0.7000	< 2.0000
Pesticides (ug/g)	ND	ND
Herbicides (ug/g)	NA	NA
Total Petroleum Hydrocarbons (ug/g)	NA	NA
Explosives (ug/g)		
2,4,6-Trinitrotoluene	< 0.4560	0.5200**
2,4-Dinitrotoluene	< 3.0000	< 7.0000
Dioxins/Furans (ug/g)	NA	NA

Notes: ** = Analyte was detected at the concentration shown < = Not detected at the value shown, NA = Not analyzed

Table 5-12

MONTGOMERY WATSON

TABLE 5-12

DEACTIVATION FURNACE BUILDING
(SWMU 21)
ANALYTICAL RESULTS

TOOELE AD-NORTH AREA: SWMU NO. 21 - AED DEACTIVATION FURNACE BUILDING
SOIL ANALYTICAL RESULTS FOR METALS

Sample ID	SS-21-001	SS-21-002	SS-21-003	SS-21-004	SS-21-005	SS-21-005-DUP	SS-21-006	SS-21-007
Lab ID	OILL1*453	OIL1*454	OIL1*455	OIL1*456	OIL1*452	OIL1*457	OIL1*458	OIL1*459
Date Sampled	07/11/92	07/11/92	07/11/92	07/11/92	07/11/92	07/11/92	07/11/92	07/11/92
Depth (ft)	0.000 ft	0.000 ft	0.000 ft	0.000 ft	0.000 ft	0.000 ft	0.000 ft	0.000 ft
Metals and Cyanide (ug/g)								
Aluminum	6650.0000	7580.0000	7460.0000	10500.0000	7340.0000	10600.0000	9380.0000	8170.0000
Antimony	30.1000**	76.0000**	235.0000**	134.0000**	22.6000**	49.6000**	9.1700**	148.0000**
Arsenic	4.2600	5.7900	6.9900	7.5800	7.4200	8.9000	6.1300	5.6400
Barium	882.0000**	5200.0000**	1570.0000**	1740.0000**	430.0000**	540.0000**	367.0000**	2700.0000**
Beryllium	0.6890	0.6780	< 0.5000	0.6590	0.8830	< 0.5000	1.0000	0.6610
Cadmium	44.8000**	130.0000**	98.6000**	166.0000**	496.0000**	701.0000**	13.1000**	77.9000**
Calcium	17400.0000	42200.0000	39600.0000	42400.0000	39400.0000	42900.0000	23500.0000	35700.0000
Chromium	32.6000**	60.7000**	39.0000**	68.3000**	7700.0000**	11000.0000**	15.2000	49.6000**
Cobalt	2.3700	3.7200	2.9500	3.8500	2.2200	3.3500	4.9400	2.8800
Copper	903.0000**	1440.0000**	1800.0000**	3500.0000**	193.0000**	709.0000**	361.0000**	3800.0000**
Cyanide	< 0.9200	< 0.9200	< 0.9200	< 0.9200	690.0000**	780.0000**	< 0.9200	< 0.9200
Iron	7040.0000	21400.0000	11500.0000	14200.0000	19000.0000	25400.0000**	11400.0000	12500.0000
Lead	2210.0000**	4910.0000**	26000.0000**	11000.0000**	1340.0000**	3960.0000**	748.0000**	14000.0000**
Magnesium	3300.0000	7590.0000	7060.0000	7080.0000	5040.0000	6490.0000	8530.0000	7460.0000
Manganese	151.0000	306.0000	201.0000	213.0000	166.0000	202.0000	406.0000	268.0000
Mercury	< 0.0500	< 0.0500	0.0558**	0.0782**	< 0.0500	< 0.0500	< 0.0500	< 0.0500
Nickel	32.0000**	42.4000**	23.2000**	37.4000**	5.3700	7.1900	12.0000	24.7000**
Potassium	1150.0000	1290.0000	2070.0000	1360.0000	3570.0000	4870.0000	3810.0000	1460.0000
Selenium	0.3760**	0.5720**	0.4960**	1.1800**	0.8720**	1.0100**	0.6310**	0.6170**
Silver	1.3800**	6.4000**	8.5200**	14.0000**	< 0.5890	0.8790**	1.7400**	3.7700**
Sodium	232.0000	292.0000	409.0000	277.0000	754.0000	1050.0000	453.0000	257.0000
Thallium	8.4500	19.2000**	29.9000**	18.6000**	17.9000**	28.1000**	9.8600**	24.6000**
Vanadium	9.2600	10.4000	10.7000	9.4100	9.8400	12.0000	17.3000	10.5000
Zinc	1100.0000**	3970.0000**	2610.0000**	4270.0000**	764.0000**	1370.0000**	485.0000**	7200.0000**

Notes: ** = V is above the background concentration for the depth shown, < = N ected at the value shown, NA = Not analyzed

TOOELE AD-NORTH AREA: SWMU NO. 21 D D ATION FURNACE BUILDING
SOIL ANALYTICAL RESULTS ALS

Sample ID	SS-21-008	SS-21-009	SS-21-010
Lab ID	OIL1*460	OIL1*461	OIL1*462
Date Sampled	07/11/92	07/11/92	07/11/92
Depth (ft)	0.000 ft	0.000 ft	0.000 ft
Metals and Cyanide (ug/g)			
Aluminum	9800.0000	26000.0000**	10500.0000
Antimony	130.0000**	788.0000**	138.0000**
Arsenic	43.0000	11.0000	8.9200
Barium	3000.0000**	12000.0000**	5800.0000**
Beryllium	3.8000**	1.2000	0.8500
Cadmium	75.0000**	904.0000**	325.0000**
Calcium	37000.0000	29200.0000	28500.0000
Chromium	100.0000**	248.0000**	137.0000**
Cobalt	15.0000**	9.6300**	6.4100
Copper	29000.0000**	15000.0000**	4000.0000**
Cyanide	< 0.9200	1.4100**	1.3600**
Iron	170000.0000**	45400.0000**	30600.0000**
Lead	11000.0000**	63000.0000**	6500.0000**
Magnesium	6800.0000	11100.0000	6900.0000
Manganese	2300.0000**	523.0000	403.0000
Mercury	0.0687**	0.0579**	0.0991**
Nickel	84.0000**	254.0000**	90.1000**
Potassium	1100.0000	736.0000	932.0000
Selenium	1.8300**	1.7600**	1.3400**
Silver	12.0000**	7.5400**	2.7600**
Sodium	270.0000	326.0000	310.0000
Thallium	75.0000**	82.8000**	20.5000**
Vanadium	< 14.0000	9.0000	7.6500
Zinc	19000.0000**	18000.0000**	12000.0000**

Notes: ** = Value is above the background concentration for the depth shown, < = Not detected at the value shown, NA = Not analyzed

TOOELE AD-NORTH AREA: SWMU NO. 21 - AED DEACTIVATION FURNACE BUILDING
SOIL ANALYTICAL RESULTS FOR ORGANIC COMPOUNDS

Sample ID	SS-21-001	SS-21-002	SS-21-003	SS-21-004	SS-21-005	SS-21-005-DUP	SS-21-006	SS-21-007
Lab ID	OIL1*453	OIL1*454	OIL1*455	OIL1*456	OIL1*452	OIL1*457	OIL1*458	OIL1*459
Date Sampled	07/11/92	07/11/92	07/11/92	07/11/92	07/11/92	07/11/92	07/11/92	07/11/92
Depth (ft)	0.000 ft	0.000 ft	0.000 ft	0.000 ft	0.000 ft	0.000 ft	0.000 ft	0.000 ft
Volatile Organic Compounds (ug/g)								
2-Methyl-2-propanol/tert-Butanone (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
Ethylbenzene	0.0018**	0.0027**	0.0023**	0.0032**	0.0059**	0.0031**	0.0038**	0.0042**
Toluene	< 0.0008	0.6000**	< 0.0008	< 0.0008	0.0016**	< 0.0008	0.0008**	0.0024**
Xylenes	0.0098**	0.0121**	0.0111**	0.0161**	0.0274**	0.0132**	0.0183**	0.0170**
Semivolatile Organic Compounds (ug/g)								
2-Ethyl-1-hexanol	NA	NA	NA	NA	NA	NA	NA	8.0000**
Di-n-butyl phthalate	< 0.0610	0.9000**	2.0000**	< 0.1000	< 0.1000	< 0.0610	< 0.0610	< 0.2000
Fluoranthene	< 0.0680	< 0.1000	< 0.1000	< 0.1000	< 0.1000	< 0.0680	< 0.0680	< 0.3000
Hexadecanoic acid / Palmitic acid (TIC)	NA	NA	NA	NA	NA	0.3100**	NA	NA
Napthalene	< 0.0370	< 0.0700	< 0.0700	< 0.0700	< 0.0700	< 0.0370	< 0.0370	< 0.1000
Phenanthrene	< 0.0330	< 0.0700	< 0.0700	< 0.0700	< 0.0700	< 0.0330	< 0.0330	< 0.1000
Pyrene	< 0.0330	< 0.0700	< 0.0700	< 0.0700	< 0.0700	< 0.0330	< 0.0330	< 0.1000
n-Nitrosodiphenylamine	< 0.1900	0.5000**	< 0.4000	< 0.4000	< 0.4000	< 0.1900	< 0.1900	< 0.8000
Pesticides (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA
Herbicides (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA
Total Petroleum Hydrocarbons (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA
Explosives (ug/g)								
1,3,5-Trinitrobenzene	< 0.4880	< 0.4880	< 0.4880	< 0.4880	48.0000**	41.0000**	< 0.4880	< 0.4880
2,4,6-Trinitrotoluene	< 0.4560	1.1500**	< 0.4560	< 0.4560	16000.0000**	16000.0000**	< 0.4560	< 0.4560
2,4-Dinitrotoluene	< 0.1400	4.0000**	4.0000**	< 0.3000	4.0000**	6.8000**	< 0.1400	< 0.6000
2,6-Dinitrotoluene	< 0.0850	< 0.2000	< 0.2000	< 0.2000	< 0.2000	< 0.0850	< 0.0850	< 0.3000
Cyclonite (RDX)	< 0.5870	< 0.5870	< 0.5870	< 0.5870	6.0000**	5.5000**	< 0.5870	< 0.5870
Dioxins/Furans (ug/g)								
2,3,7,8-Tetrachlorodibenzofuran	< 0.000003	0.000028**	< 0.000003	< 0.000005	< 0.000003	< 0.000003	< 0.000003	< 0.000025
Heptachlorodibenzodioxin - non specific	0.000200**	0.001400**	0.000100**	0.000300**	0.000500**	0.000500**	0.000100**	< 0.000300
Heptachlorodibenzofuran - non specific	< 0.000045	0.000500**	< 0.000021	0.000100**	0.000100**	0.000200**	< 0.000018	< 0.000100
Hexachlorodibenzodioxin - non specific	< 0.000013	0.000200**	< 0.000013	< 0.000014	< 0.000014	< 0.000038	< 0.000011	< 0.000100
Hexachlorodibenzofuran - non specific	< 0.000024	0.000200**	< 0.000009	< 0.000044	< 0.000033	< 0.000040	< 0.000008	< 0.000016
Octachlorodibenzodioxin - non specific	0.001600**	0.007500**	0.000500**	0.001800**	0.003600**	0.003600**	0.000600**	0.002000**

Notes: ** = Analyte was detected at the concentration shown < = Not detected at the value shown, NA = Not analyzed

TOOELE AD-NORTH AREA: SWMU NO. [illegible]ED DEACTIVATION FURNACE BUILDING
SOIL ANALYTICAL RESU[illegible] FOR ORGANIC COMPOUNDS

Sample ID	SS-21-001	SS-21-002	SS-21-003	SS-21-004	SS-21-005	SS-21-005-DUP	SS-21-006	SS-21-007
Lab ID	OIL1*453	OIL1*454	OIL1*455	OIL1*456	OIL1*452	OIL1*457	OIL1*458	OIL1*459
Date Sampled	07/11/92	07/11/92	07/11/92	07/11/92	07/11/92	07/11/92	07/11/92	07/11/92
Depth (ft)	0.000 ft	0.000 ft	0.000 ft	0.000 ft	0.000 ft	0.000 ft	0.000 ft	0.000 ft
Octachlorodibenzofuran - non specific	< 0.000013	0.000700**	< 0.000100	< 0.000200	0.000300**	0.000300**	< 0.000100	< 0.000300
Pentachlorodibenzofuran - non specific	< 0.000003	< 0.000027	< 0.000003	< 0.000004	< 0.000003	< 0.000002	< 0.000003	< 0.000016

Notes: ** = Analyte was detected at the concentration shown < = Not detected at the value shown, NA = Not analyzed

TOOELE AD-NORTH AREA: SWMU NO. 21 - AED DEACTIVATION FURNACE BUILDING
SOIL ANALYTICAL RESULTS FOR ORGANIC COMPOUNDS

Sample ID	SS-21-008	SS-21-009	SS-21-010
Lab ID	OIL1*460	OIL1*461	OIL1*462
Date Sampled	07/11/92	07/11/92	07/11/92
Depth (ft)	0.000 ft	0.000 ft	0.000 ft
Volatile Organic Compounds (ug/g)			
2-Methyl-2-propanol/tert-Butanone (TIC)	0.0075**	NA	NA
Ethylbenzene	0.0028**	0.0055**	< 0.0017
Toluene	< 0.0008	0.9000**	< 0.0008
Xylenes	0.0149**	0.0249**	0.0019**
Semivolatile Organic Compounds (ug/g)			
2-Ethyl-1-hexanol	NA	NA	NA
Di-n-butyl phthalate	0.2000**	7.0000**	6.0000**
Fluoranthene	< 0.1000	0.3000**	< 0.3000
Hexadecanoic acid / Palmitic acid (TIC)	NA	NA	NA
Napthalene	< 0.0700	0.1000**	< 0.2000
Phenanthrene	< 0.0700	0.2000**	< 0.2000
Pyrene	< 0.0700	0.2000**	< 0.2000
n-Nitrosodiphenylamine	< 0.4000	2.0000**	< 1.0000
Pesticides (ug/g)	NA	NA	NA
Herbicides (ug/g)	NA	NA	NA
Total Petroleum Hydrocarbons (ug/g)	NA	NA	NA
Explosives (ug/g)			
1,3,5-Trinitrobenzene	< 0.4880	< 0.4880	< 0.4880
2,4,6-Trinitrotoluene	< 0.4560	< 0.4560	2.0100**
2,4-Dinitrotoluene	< 0.3000	7.0000**	< 0.7000
2,6-Dinitrotoluene	< 0.2000	0.5000**	< 0.4000
Cyclonite (RDX)	< 0.5870	< 0.5870	< 0.5870
Dioxins/Furans (ug/g)			
2,3,7,8-Tetrachlorodibenzofuran	< 0.000003	0.000100**	< 0.000034
Heptachlorodibenzodioxin - non specific	0.000100**	0.001300**	0.004000**
Heptachlorodibenzofuran - non specific	< 0.000037	0.000700**	0.001300**
Hexachlorodibenzodioxin - non specific	< 0.000015	0.000100**	0.000500**
Hexachlorodibenzofuran - non specific	< 0.000008	0.000200**	0.000300**
Octachlorodibenzodioxin - non specific	0.000900**	0.004600**	0.028000**

Notes: ** = Analyte was detected at the concentration shown < = Not detected at the value shown, NA = Not analyzed

TOOELE AD-NORTH AREA: SWMU NO. AED DEACTIVATION FURNACE BUILDING
SOIL ANALYTICAL RES FOR ORGANIC COMPOUNDS

Sample ID	SS-21-008	SS-21-009	SS-21-010
Lab ID	OIL1*460	OIL1*461	OIL1*462
Date Sampled	07/11/92	07/11/92	07/11/92
Depth (ft)	0.000 ft	0.000 ft	0.000 ft
Octachlorodibenzofuran - non specific	< 0.000100	0.001000**	0.002800**
Pentachlorodibenzofuran - non specific	< 0.000002	0.000100**	< 0.000035

Notes: ** = Analyte was detected at the concentration shown < = Not detected at the value shown, NA = Not analyzed

TOOELE AD-NORTH AREA: SWMU NO. 21 - AED DEACTIVATION FURNACE BUILDING
SOIL ANALYTICAL RESULTS FOR GENERAL CHEMICALS

Sample ID	SS-21-001	SS-21-002	SS-21-003	SS-21-004	SS-21-005	SS-21-005-DUP	SS-21-006	SS-21-007
Lab ID	OIL1*453	OIL1*454	OIL1*455	OIL1*456	OIL1*452	OIL1*457	OIL1*458	OIL1*459
Date Sampled	07/11/92	07/11/92	07/11/92	07/11/92	07/11/92	07/11/92	07/11/92	07/11/92
Depth (ft)	0.000 ft	0.000 ft	0.000 ft	0.000 ft	0.000 ft	0.000 ft	0.000 ft	0.000 ft
Anions (ug/g)								
Chloride	10.5000	< 6.0500	250.0000**	17.1000	10.6000	7.3700	90.6000	< 6.0500
Nitrite, nitrate - nonspecified	7.4500**	1.7600	70.0000**	7.8000**	11.0000**	6.7300**	4.0000**	0.5660
Sulfate	< 90.4000	< 90.4000	256.0000	< 90.4000	< 90.4000	< 90.4000	165.0000	< 90.4000
Total phosphates	650.0000**	1500.0000**	990.0000**	220.0000	290.0000	< 300.0000	830.0000**	950.0000**
General Inorganic Parameters								
pH	8.7400	8.7100	8.8000	7.5900	8.6300	8.1300	8.5600	9.0600

Notes: ** = is above the background concentration for the depth shown, < = N tected at the value shown, NA = Not analyzed

TOOELE AD-NORTH AREA: SWMU NO. 2 ƐD DEACTIVATION FURNACE BUILDING
SOIL ANALYTICAL RESULTS FOR GENERAL CHEMICALS

Sample ID	SS-21-008	SS-21-009	SS-21-010
Lab ID	OIL1*460	OIL1*461	OIL1*462
Date Sampled	07/11/92	07/11/92	07/11/92
Depth (ft)	0.000 ft	0.000 ft	0.000 ft
Anions (ug/g)			
Chloride	< 6.0500	9.2000	9.8800
Nitrite, nitrate - nonspecified	1.1400	4.1700**	6.3200**
Sulfate	< 90.4000	202.0000	213.0000
Total phosphates	880.0000**	410.0000	2000.0000**
General Inorganic Parameters			
pH	8.9300	8.7200	8.8100

otes: ** = Value is above the background concentration for the depth shown, < = Not detected at the value shown, NA = Not analyzed

Table 5-13

MONTGOMERY WATSON

TABLE 5-13

DRMO STORAGE YARD (SWMU 26) ANALYTICAL RESULTS

TOOELE AD-NORTH AREA: SWMU NO. 26 - DRMO STORAGE YARD
SOIL ANALYTICAL RESULTS FOR METALS

Sample ID	SB-26-001	SB-26-001	SB-26-002	SB-26-002	SB-26-003	SB-26-003	SB-26-004	SB-26-004
Lab ID	OIL1*479	OIL1*463	OIL1*480	OIL1*464	OIL1*481	OIL1*465	OIL1*482	OIL1*466
Date Sampled	06/23/92	06/23/92	06/23/92	06/23/92	06/23/92	06/23/92	06/23/92	06/23/92
Depth (ft)	0.000 ft	1.000 ft	0.000 ft	1.000 ft	0.000 ft	1.000 ft	0.000 ft	1.000 ft
Metals and Cyanide (ug/g)								
Aluminum	864.0000	608.0000	4230.0000	680.0000	3840.0000	3670.0000	5560.0000	5660.0000
Antimony	< 7.1400	< 7.1400	< 7.1400	< 7.1400	< 7.1400	< 7.1400	< 7.1400	< 7.1400
Arsenic	4.7900	3.8300	7.1600	4.4600	6.2000	4.8200	7.5100	7.7300
Barium	46.0000	19.1000	66.6000	55.7000	58.9000	72.2000	59.7000	68.1000
Beryllium	< 0.5000	< 0.5000	< 0.5000	< 0.5000	0.5880	0.6160	0.5990	0.6030
Cadmium	< 0.7000	< 0.7000	3.2600**	< 0.7000	1.4300**	1.0700**	1.5100**	< 0.7000
Calcium	90000.0000**	71000.0000**	54000.0000	110000.0000**	66000.0000	66000.0000	26500.0000	7710.0000
Chromium	7.0500	< 4.0500	45.7000**	< 4.0500	11.7000	9.5600	11.4000	9.1300
Cobalt	< 1.4200	< 1.4200	2.3000	< 1.4200	1.8800	2.0600	2.1500	2.7800
Copper	5.9200	3.5200	25.2000	2.8300	11.3000	8.7000	15.0000	15.4000
Cyanide	< 0.9200	< 0.9200	< 0.9200	< 0.9200	< 0.9200	< 0.9200	< 0.9200	< 0.9200
Iron	1830.0000	1950.0000	8150.0000	1500.0000	4480.0000	4690.0000	5680.0000	6590.0000
Lead	15.0000	7.4600	75.2000**	4.7700	34.5000	12.0000	49.0000	35.6000
Magnesium	4670.0000	8990.0000	4270.0000	8360.0000	6350.0000	4560.0000	3630.0000	3030.0000
Manganese	90.5000	76.6000	200.0000	55.1000	137.0000	142.0000	167.0000	227.0000
Mercury	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500
Nickel	2.3900	2.5800	7.1700	2.5100	5.9700	6.5600	6.0500	6.6500
Potassium	186.0000	121.0000	1090.0000	123.0000	1060.0000	1030.0000	1560.0000	1760.0000
Selenium	< 0.2500	< 0.2500	< 0.2500	< 0.2500	< 0.2500	< 0.2500	< 0.2500	< 0.2500
Silver	< 0.5890	< 0.5890	< 0.5890	< 0.5890	< 0.5890	< 0.5890	< 0.5890	< 0.5890
Sodium	272.0000	175.0000	743.0000	368.0000	427.0000	273.0000	432.0000	227.0000
Thallium	< 6.6200	< 6.6200	< 6.6200	< 6.6200	8.0400	< 6.6200	< 6.6200	< 6.6200
Vanadium	5.5800	6.3200	10.5000	6.1900	10.8000	10.6000	10.2000	10.4000
Zinc	23.1000	14.9000	113.0000**	14.9000	49.9000	30.8000	55.1000	44.8000

Notes: [illegible] va[illegible] [illegible]s above the background concentration for the depth shown, [illegible]ted at the value shown, NA = Not analyzed

TOOELE AD-NORTH AREA: SWMU ... 26 - DRMO STORAGE YARD
SOIL ANALYTICAL RESULTS FOR METALS

;ample ID	SB-26-004-DUP	SB-26-005	SB-26-005	SB-26-006	SB-26-006	SB-26-007	SB-26-007	SB-26-008
ab ID	OIL1*478	OIL1*483	OIL1*467	OIL1*484	OIL1*468	OIL1*485	OIL1*469	OIL1*486
'ate Sampled	06/23/92	06/23/92	06/23/92	06/23/92	06/23/92	06/23/92	06/23/92	06/24/92
'epth (ft)	1.000 ft	0.000 ft	1.000 ft	0.000 ft	1.000 ft	0.000 ft	1.000 ft	0.000 ft
'etals and Cyanide (ug/g)								
Aluminum	6200.0000	5020.0000	7220.0000	5020.0000	6360.0000	3230.0000	4930.0000	4990.0000
Antimony	< 7.1400	< 7.1400	< 7.1400	< 7.1400	< 7.1400	< 7.1400	< 7.1400	< 7.1400
Arsenic	9.0500	6.2800	4.0300	8.6000	8.3500	5.6900	8.7000	8.2300
Barium	73.7000	94.6000	90.6000	69.3000	85.6000	74.9000	112.0000	76.1000
Beryllium	0.6130	0.7050	0.6250	0.6780	0.6030	< 0.5000	< 0.5000	0.6160
Cadmium	< 0.7000	1.7800**	< 0.7000	0.8730**	< 0.7000	1.4300**	2.0200**	2.2400**
Calcium	18000.0000	26200.0000	30600.0000	41600.0000	38500.0000	30400.0000	39700.0000	46100.0000
Chromium	9.7500	12.5000	12.9000	14.1000	11.5000	20.6000	28.1000**	13.9000
Cobalt	2.5300	2.0400	2.9300	2.2400	2.8200	2.0200	2.2400	2.1300
Copper	15.0000	303.0000**	60.5000**	18.2000	9.2600	50.1000**	135.0000**	75.9000**
Cyanide	< 0.9200	< 0.9200	< 0.9200	< 0.9200	< 0.9200	< 0.9200	< 0.9200	< 0.9200
Iron	6510.0000	5830.0000	7760.0000	6030.0000	6580.0000	5390.0000	7430.0000	5540.0000
Lead	74.7000**	133.0000**	30.3000	53.6000	32.6000	66.4000**	224.0000**	202.0000**
Magnesium	3620.0000	4780.0000	4970.0000	4100.0000	3720.0000	3620.0000	4550.0000	4370.0000
Manganese	216.0000	173.0000	233.0000	213.0000	186.0000	160.0000	204.0000	183.0000
Mercury	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500
Nickel	6.0500	6.1500	8.0500	7.3500	7.0900	7.1300	7.2900	6.9300
Potassium	1760.0000	1520.0000	2040.0000	1410.0000	1660.0000	1030.0000	1350.0000	1190.0000
Selenium	< 0.2500	< 0.2500	< 0.2500	< 0.2500	< 0.2500	< 0.2500	< 0.2500	< 0.2500
Silver	< 0.5890	< 0.5890	< 0.5890	< 0.5890	< 0.5890	< 0.5890	< 0.5890	< 0.5890
Sodium	275.0000	365.0000	261.0000	412.0000	280.0000	348.0000	291.0000	637.0000
Thallium	< 6.6200	< 6.6200	< 6.6200	8.1900	< 6.6200	< 6.6200	< 6.6200	< 6.6200
Vanadium	11.0000	10.5000	12.5000	11.9000	13.3000	8.4400	11.8000	11.5000
Zinc	45.6000	310.0000**	80.9000	75.3000	39.9000	178.0000**	160.0000**	226.0000**

tes: ** = Value is above the background concentration for the depth shown, < = Not detected at the value shown, NA = Not analyzed

TOOELE AD-NORTH AREA: SWMU NO. 26 - DRMO STORAGE YARD
SOIL ANALYTICAL RESULTS FOR METALS

Sample ID	SB-26-008	SB-26-009	SB-26-009	SB-26-010	SB-26-010	SB-26-011	SB-26-011	SB-26-011-'
Lab ID	OIL1*470	OIL1*487	OIL1*471	OIL1*488	OIL1*472	OIL1*489	OIL1*473	OIL1*524
Date Sampled	06/24/92	06/24/92	06/24/92	06/24/92	06/24/92	06/24/92	06/24/92	06/24/92
Depth (ft)	1.000 ft	0.000 ft	1.000 ft	0.000 ft	1.000 ft	0.000 ft	1.000 ft	1.000 ft
Metals and Cyanide (ug/g)								
Aluminum	3700.0000	4550.0000	10600.0000	5870.0000	1840.0000	5120.0000	7140.0000	7000.0000
Antimo	< 7.1400	< 7.1400	< 7.1400	< 7.1400	< 7.1400	< 7.1400	< 7.1400	< 7.1400
Arser	4.7300	7.7800	4.7600	7.3000	6.4700	7.6700	3.0100	3.2000
Bari	114.0000	60.7000	86.9000	108.0000	42.5000	71.4000	68.0000	73.1000
Beryllium	< 0.5000	< 0.5000	0.6510	< 0.5000	< 0.5000	< 0.5000	< 0.5000	< 0.5000
Cadmium	< 0.7000	1.6300**	< 0.7000	9.3400**	0.8950**	2.6100**	< 0.7000	< 0.7000
Calcium	76000.0000**	62000.0000	89000.0000**	40200.0000	68000.0000	49300.0000	2390.0000	2580.0000
Chromium	11.9000	22.0000**	20.1000	57.1000**	15.0000	14.1000	11.1000	11.1000
Cobalt	< 1.4200	1.8100	3.8500	2.8200	< 1.4200	2.4500	2.9100	3.3300
Copper	9.8200	29.8000**	11.7000	380.0000**	17.9000	44.8000**	7.1000	8.3500
Cyanide	< 0.9200	< 0.9200	< 0.9200	< 0.9200	< 0.9200	< 0.9200	< 0.9200	< 0.9200
Iron	3880.0000	4730.0000	9600.0000	8080.0000	3010.0000	6170.0000	7230.0000	7670.0000
Lead	19.0000	218.0000**	67.7000**	252.0000**	65.0000**	50.6000	8.4100	9.6000
Magnesium	4540.0000	6320.0000	8730.0000	4060.0000	4140.0000	4030.0000	2650.0000	2720.0000
Manganese	92.7000	131.0000	181.0000	225.0000	67.2000	208.0000	218.0000	242.0000
Mercury	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500
Nickel	6.5300	6.3100	12.9000	8.7700	4.6400	7.8000	7.4500	7.9000
Potassium	783.0000	1100.0000	2360.0000	1700.0000	477.0000	1390.0000	1960.0000	2050.0000
Selenium	< 0.2500	< 0.2500	< 0.2500	< 0.2500	< 0.2500	< 0.2500	< 0.2500	< 0.2500
Silver	< 0.5890	< 0.5890	< 0.5890	< 0.5890	< 0.5890	< 0.5890	< 0.5890	< 0.5890
Sodium	307.0000	497.0000	381.0000	614.0000	290.0000	294.0000	385.0000	374.0000
Thallium	< 6.6200	8.6400	< 6.6200	< 6.6200	< 6.6200	< 6.6200	< 6.6200	< 6.6200
Vanadium	9.2500	10.1000	18.8000	10.7000	8.4700	11.4000	11.7000	12.8000
Zinc	42.8000	166.0000**	72.3000	568.0000**	39.7000	281.0000**	36.9000	44.2000

Notes: e is above the background concentration for the depth shown, < 'etected at the value shown, NA = Not analyzed

TOOELE AD-NORTH AREA: SWMU ... 26 - DRMO STORAGE YARD
SOIL ANALYTICAL RESULTS FOR METALS

;ample ID	SB-26-012	SB-26-012	SB-26-013	SB-26-013	SB-26-014	SB-26-014	SB-26-015	SB-26-015
ab ID	01L1*490	01L1*474	01L1*491	01L1*475	01L1*492	01L1*476	01L1*493	01L1*477
'ate Sampled	06/24/92	06/24/92	06/24/92	06/24/92	06/24/92	06/24/92	06/24/92	06/24/92
'epth (ft)	0.000 ft	1.000 ft	0.000 ft	1.000 ft	0.000 ft	1.000 ft	0.000 ft	1.000 ft
'etals and Cyanide (ug/g)								
Aluminum	4190.0000	6110.0000	6390.0000	6450.0000	3860.0000	5360.0000	3950.0000	4860.0000
Antimony	< 7.1400	< 7.1400	< 7.1400	< 7.1400	< 7.1400	< 7.1400	< 7.1400	< 7.1400
Arsenic	5.4400	4.4300	10.6000	3.0700	6.1100	6.3200	5.5800	4.3500
Barium	66.1000	75.9000	79.2000	65.7000	64.0000	73.0000	63.7000	78.5000
Beryllium	< 0.5000	< 0.5000	0.5750	< 0.5000	< 0.5000	< 0.5000	< 0.5000	< 0.5000
Cadmium	3.2900**	0.9660**	1.3400**	< 0.7000	0.7870	1.2800**	4.4200**	1.1500**
Calcium	18700.0000	5190.0000	21800.0000	9840.0000	26200.0000	27700.0000	19300.0000	34600.0000
Chromium	10.7000	10.9000	10.7000	9.9800	11.4000	13.7000	10.2000	7.6700
Cobalt	2.2900	2.9800	2.6900	2.3800	2.3000	2.4100	1.9200	2.0300
Copper	74.0000**	26.7000**	14.1000	7.9800	12.2000	14.4000	10.6000	7.6200
Cyanide	< 0.9200	< 0.9200	< 0.9200	< 0.9200	< 0.9200	< 0.9200	< 0.9200	< 0.9200
Iron	5460.0000	6820.0000	7070.0000	6520.0000	5070.0000	6290.0000	5120.0000	5240.0000
Lead	56.4000**	26.2000	44.5000	10.7000	41.0000	47.0000	19.0000	6.3700
Magnesium	2770.0000	2440.0000	3570.0000	2740.0000	3600.0000	4360.0000	3940.0000	3830.0000
Manganese	278.0000	277.0000	374.0000	208.0000	167.0000	193.0000	185.0000	153.0000
Mercury	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500
Nickel	6.6100	7.4300	8.0200	7.3000	5.7600	7.3000	5.6900	5.9500
Potassium	1130.0000	1710.0000	1930.0000	1780.0000	1260.0000	1640.0000	1310.0000	1330.0000
Selenium	< 0.2500	< 0.2500	< 0.2500	< 0.2500	< 0.2500	< 0.2500	< 0.2500	< 0.2500
Silver	< 0.5890	< 0.5890	< 0.5890	< 0.5890	< 0.5890	< 0.5890	< 0.5890	< 0.5890
Sodium	227.0000	214.0000	463.0000	238.0000	204.0000	228.0000	336.0000	320.0000
Thallium	< 6.6200	< 6.6200	< 6.6200	< 6.6200	< 6.6200	< 6.6200	< 6.6200	< 6.6200
Vanadium	8.5500	10.1000	11.4000	10.5000	8.3800	10.6000	7.9700	10.1000
Zinc	396.0000**	129.0000**	293.0000**	40.3000	49.2000	71.6000	42.3000	29.3000

tes: ** = Value is above the background concentration for the depth shown, < = Not detected at the value shown, NA = Not analyzed

TOOELE AD-NORTH AREA: SWMU NO. 26 - DRMO STORAGE YARD
SOIL ANALYTICAL RESULTS FOR METALS

Sample ID	SS-26-016	SS-26-017	SS-26-018	SS-26-019	SS-26-019-DUP	SS-26-020	SS-26-021	SS-26-022
Lab ID	OIL1*509	OIL1*510	OIL1*511	OIL1*512	OIL1*526	OIL1*513	OIL1*514	OIL1*515
Date Sampled	06/29/92	06/29/92	06/29/92	06/29/92	06/29/92	06/29/92	06/29/92	06/29/92
Depth (ft)	0.000 ft	0.000 ft	0.000 ft	0.000 ft	0.000 ft	0.000 ft	0.000 ft	0.000 ft
Metals and Cyanide (ug/g)								
Aluminum	1670.0000	1580.0000	5590.0000	4020.0000	3470.0000	3310.0000	1530.0000	4200.0000
Antimony	< 7.1400	< 7.1400	< 7.1400	< 7.1400	< 7.1400	< 7.1400	< 7.1400	8.9700*
Arsenic	6.9800	5.1200	7.7000	5.2600	5.1100	13.0000	4.7500	13.0000
Barium	34.5000	32.2000	68.7000	62.2000	58.9000	51.5000	30.4000	84.5000
Beryllium	< 0.5000	< 0.5000	< 0.5000	< 0.5000	< 0.5000	< 0.5000	< 0.5000	< 0.5000
Cadmium	1.0600**	< 0.7000	1.7200**	1.3000**	1.6500**	3.5900**	2.2100**	8.7000*
Calcium	48000.0000	72000.0000**	22900.0000	40100.0000	39700.0000	44700.0000	63000.0000	49700.0000
Chromium	14.6000	11.1000	12.7000	12.9000	10.9000	12.8000	8.2400	22.7000*
Cobalt	< 1.4200	< 1.4200	2.4200	1.9800	1.9000	2.1500	< 1.4200	2.2600
Copper	10.4000	5.0600	14.1000	15.6000	17.4000	25.6000**	5.3600	96.3000*
Cyanide	< 0.9200	< 0.9200	< 0.9200	< 0.9200	< 0.9200	< 0.9200	< 0.9200	< 0.9200
Iron	3120.0000	2590.0000	7500.0000	5340.0000	4780.0000	4830.0000	2590.0000	7610.0000
Lead	35.7000	25.4000	38.3000	44.3000	42.3000	75.0000**	26.0000	335.0000*
Magnesium	4040.0000	4860.0000	3780.0000	4700.0000	4010.0000	5350.0000	4820.0000	4160.0000
Manganese	104.0000	82.7000	205.0000	157.0000	156.0000	159.0000	77.0000	177.0000
Mercury	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	0.0700*
Nickel	6.3600	4.0500	7.6100	7.7300	6.7100	7.1200	3.9700	8.7700
Potassium	560.0000	487.0000	1590.0000	1260.0000	1110.0000	1060.0000	503.0000	1210.0000
Selenium	< 0.2500	< 0.2500	< 0.2500	< 0.2500	< 0.2500	< 0.2500	< 0.2500	< 0.2500
Silver	< 0.5890	< 0.5890	< 0.5890	< 0.5890	< 0.5890	< 0.5890	< 0.5890	< 0.5890
Sodium	144.0000	131.0000	205.0000	387.0000	288.0000	291.0000	234.0000	246.0000
Thallium	< 6.6200	< 6.6200	< 6.6200	< 6.6200	< 6.6200	< 6.6200	< 6.6200	< 6.6200
Vanadium	5.8400	7.4000	11.4000	10.7000	9.1400	10.4000	7.1800	10.8000
Zinc	64.7000	20.9000	83.5000	51.4000	51.2000	111.0000**	25.4000	201.0000*

Notes: * is above the background concentration for the depth shown, < [illegible]tected at the value shown, NA = Not analyzed

TOOELE AD-NORTH AREA: SWMU No. 26 - DRMO STORAGE YARD
SOIL ANALYTICAL RESULTS FOR METALS

ample ID	SS-26-023	SS-26-024	SS-26-025	SS-26-025-DUP	SS-26-026	SS-26-027	SS-26-028	SS-26-029
ab ID	OIL1*516	OIL1*517	OIL1*518	OIL1*527	OIL1*519	OIL1*520	OIL1*521	OIL1*522
ate Sampled	06/29/92	06/30/92	06/30/92	06/30/92	06/30/92	06/30/92	06/30/92	06/30/92
epth (ft)	0.000 ft	0.000 ft	0.000 ft	0.000 ft	0.000 ft	0.000 ft	0.000 ft	0.000 ft
etals and Cyanide (ug/g)								
Aluminum	4080.0000	2920.0000	1840.0000	1240.0000	6030.0000	3900.0000	5850.0000	4240.0000
Antimony	8.3300**	< 7.1400	< 7.1400	< 7.1400	28.1000**	< 7.1400	< 7.1400	< 7.1400
Arsenic	8.2000	5.1500	5.3000	4.6600	8.9100	6.3200	5.8200	7.6500
Barium	113.0000	67.0000	30.8000	24.3000	281.0000**	65.1000	83.0000	52.6000
Beryllium	< 0.5000	< 0.5000	< 0.5000	< 0.5000	< 0.5000	< 0.5000	< 0.5000	< 0.5000
Cadmium	8.2200**	3.5400**	< 0.7000	< 0.7000	21.9000**	< 0.7000	1.6400**	4.2700**
Calcium	44800.0000	34500.0000	71000.0000**	69000.0000**	35500.0000	38500.0000	71000.0000**	14700.0000
Chromium	32.7000**	14.6000	8.9900	7.7700	103.0000**	9.8200	11.1000	9.7100
Cobalt	2.1900	1.7300	< 1.4200	< 1.4200	3.6600	2.4600	2.7500	2.4800
Copper	825.0000**	46.9000**	8.2700	7.1300	2900.0000**	11.9000	21.1000	24.7000
Cyanide	< 0.9200	< 0.9200	< 0.9200	< 0.9200	< 0.9200	< 0.9200	< 0.9200	< 0.9200
Iron	7970.0000	4670.0000	2860.0000	2550.0000	14600.0000	5550.0000	6830.0000	5610.0000
Lead	1000.0000**	64.3000**	20.0000	22.0000	1140.0000**	45.0000	31.6000	52.4000
Magnesium	4100.0000	3700.0000	5590.0000	5840.0000	4440.0000	4020.0000	5690.0000	3410.0000
Manganese	194.0000	113.0000	85.8000	84.2000	286.0000	189.0000	188.0000	190.0000
Mercury	< 0.0500	< 0.0500	< 0.0500	< 0.0500	0.1010**	< 0.0500	< 0.0500	< 0.0500
Nickel	12.7000	5.8900	4.3800	4.5500	28.2000**	8.0500	9.4900	6.2600
Potassium	970.0000	891.0000	601.0000	419.0000	1320.0000	1130.0000	1710.0000	1200.0000
Selenium	< 0.2500	< 0.2500	< 0.2500	< 0.2500	1.4600**	< 0.2500	< 0.2500	< 0.2500
Silver	0.5760	< 0.5890	< 0.5890	< 0.5890	3.0300**	< 0.5890	< 0.5890	< 0.5890
Sodium	346.0000	245.0000	263.0000	144.0000	369.0000	341.0000	283.0000	215.0000
Thallium	< 6.6200	< 6.6200	< 6.6200	< 6.6200	< 6.6200	< 6.6200	< 6.6200	< 6.6200
Vanadium	10.2000	8.4400	8.4500	6.8700	10.6000	10.8000	14.9000	11.9000
Zinc	528.0000**	98.8000	30.9000	22.9000	1700.0000**	39.2000	68.3000	4950.0000**

tes: ** = Value is above the background concentration for the depth shown, < = Not detected at the value shown, NA = Not analyzed

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TOOELE AD-NORTH AREA: SWMU NO. 26 - DRMO STORAGE YARD
SOIL ANALYTICAL RESULTS FOR METALS

Sample ID	SS-26-030	SS-26-031	SS-26-032	SS-26-033	SS-26-034	SS-26-034-DUP	SS-26-035	SS-26-036
Lab ID	OIL1*523	OIL1*494	OIL1*495	OIL1*496	OIL1*497	OIL1*528	OIL1*498	OIL1*499
Date Sampled	06/30/92	06/30/92	06/30/92	06/30/92	07/07/92	07/07/92	07/07/92	07/07/92
Depth (ft)	0.000 ft	0.000 ft	0.000 ft	0.000 ft	0.000 ft	0.000 ft	0.000 ft	0.000 ft
Metals and Cyanide (ug/g)								
Aluminum	6460.0000	7990.0000	8590.0000	3770.0000	3060.0000	3360.0000	2210.0000	6760.0000
Antimony	< 7.1400	< 7.1400	< 7.1400	< 7.1400	< 7.1400	< 7.1400	< 7.1400	< 7.1400
Arsenic	8.9400	13.0000	12.3000	7.7300	6.6700	5.8100	5.0000	8.8000
Barium	83.9000	117.0000	117.0000	67.6000	50.8000	50.4000	47.3000	96.0000
Beryllium	< 0.5000	< 0.5000	< 0.5000	< 0.5000	< 0.5000	< 0.5000	< 0.5000	< 0.5000
Cadmium	1.1500**	5.7100**	4.7200**	2.9400**	1.4700**	1.8200**	3.1000**	4.9600**
Calcium	42300.0000	16100.0000	52000.0000	31900.0000	35700.0000	44100.0000	20600.0000	41300.0000
Chromium	13.8000	21.5000**	23.3000**	10.6000	8.8700	10.0000	20.3000	19.2000
Cobalt	2.8500	3.4100	4.3300	2.5000	2.0200	< 1.4200	1.6600	3.7000
Copper	22.7000	88.8000**	71.5000**	17.5000	10.9000	11.7000	25.1000	36.3000**
Cyanide	1.1500**	1.6800**	< 0.9200	< 0.9200	< 0.9200	< 0.9200	< 0.9200	< 0.9200
Iron	7250.0000	9500.0000	10400.0000	5350.0000	4080.0000	5000.0000	4290.0000	7550.0000
Lead	63.1000**	161.0000**	163.0000**	38.7000	32.3000	32.9000	84.6000**	101.0000**
Magnesium	4360.0000	4800.0000	7420.0000	2840.0000	4550.0000	5400.0000	3880.0000	4990.0000
Manganese	222.0000	329.0000	336.0000	234.0000	142.0000	166.0000	102.0000	244.0000
Mercury	< 0.0500	0.0600**	0.0821**	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500
Nickel	8.5800	11.9000	13.5000	6.6700	5.6500	5.6500	4.6700	10.1000
Potassium	2190.0000	2590.0000	2700.0000	1170.0000	973.0000	1030.0000	609.0000	1930.0000
Selenium	< 0.2500	< 0.2500	< 0.2500	< 0.2500	0.5420**	< 0.2500	0.5070**	< 0.2500
Silver	< 0.5890	0.8900**	7.0300**	< 0.5890	< 0.5890	< 0.5890	0.5890	< 0.5000
Sodium	261.0000	431.0000	1130.0000	389.0000	229.0000	191.0000	189.0000	305.0000
Thallium	< 6.6200	< 6.6200	10.2000**	< 6.6200	< 6.6200	< 6.6200	< 6.6200	8.4600
Vanadium	13.6000	14.4000	17.6000	9.8800	7.9000	9.2400	6.0900	15.0000
Zinc	86.6000	579.0000**	260.0000**	119.0000**	49.7000	52.0000	143.0000**	183.0000**

Not... is above the background concentration for the depth shown, ...cted at the value shown, NA = Not analyzed

TOOELE AD-NORTH AREA: SWMU . 26 - DRMO STORAGE YARD
SOIL ANALYTICAL RESULTS FOR METALS

ample ID	SS-26-037	SS-26-038	SS-26-039	SS-26-040	SS-26-041	SS-26-042	SS-26-043	SS-26-044
ab ID	OIL1*500	OIL1*501	OIL1*502	OIL1*503	OIL1*504	OIL1*505	OIL1*506	OIL1*507
ate Sampled	07/07/92	07/07/92	07/07/92	07/07/92	07/07/92	07/07/92	07/07/92	07/07/92
epth (ft)	0.000 ft	0.000 ft	0.000 ft	0.000 ft	0.000 ft	0.000 ft	0.000 ft	0.000 ft
etals and Cyanide (ug/g)								
Aluminum	3900.0000	3830.0000	2030.0000	8730.0000	5560.0000	4080.0000	6820.0000	8180.0000
Antimony	< 7.1400	< 7.1400	< 7.1400	< 7.1400	< 7.1400	< 7.1400	< 7.1400	< 7.1400
Arsenic	5.4600	5.8200	8.4200	21.0000	10.0000	7.6900	6.6900	5.0400
Barium	50.3000	64.9000	36.8000	111.0000	74.8000	64.2000	97.8000	91.0000
Beryllium	< 0.5000	< 0.5000	< 0.5000	< 0.5000	< 0.5000	0.6830	< 0.5000	< 0.5000
Cadmium	1.1900**	3.8400**	2.1700**	2.6900**	6.6200**	5.8100**	5.7100**	1.3200**
Calcium	62000.0000	37200.0000	42200.0000	18800.0000	31000.0000	34700.0000	28600.0000	10200.0000
Chromium	11.6000	27.6000**	9.6500	14.7000	22.3000**	17.2000	21.6000**	20.1000
Cobalt	1.8700	2.3300	< 1.4200	3.8900	3.3300	3.3900	3.5600	4.0400
Copper	12.9000	34.5000**	16.9000	50.5000**	30.3000**	29.6000**	46.0000**	16.6000
Cyanide	< 0.9200	< 0.9200	< 0.9200	< 0.9200	< 0.9200	< 0.9200	< 0.9200	< 0.9200
Iron	4490.0000	4690.0000	3170.0000	9500.0000	7010.0000	11300.0000	8190.0000	9150.0000
Lead	26.6000	118.0000**	48.1000	145.0000**	190.0000**	95.5000**	601.0000**	89.1000**
Magnesium	6320.0000	4100.0000	6630.0000	4950.0000	3230.0000	2360.0000	4120.0000	3140.0000
Manganese	159.0000	147.0000	109.0000	378.0000	246.0000	249.0000	257.0000	288.0000
Mercury	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500
Nickel	6.3400	6.2200	4.6500	9.5400	8.0600	9.4700	9.4600	9.8200
Potassium	941.0000	1030.0000	495.0000	2770.0000	1490.0000	1090.0000	2020.0000	2460.0000
Selenium	< 0.2500	< 0.2500	< 0.2500	< 0.2500	< 0.2500	< 0.2500	< 0.2500	< 0.2500
Silver	< 0.5890	< 0.5890	< 0.5890	< 0.5890	< 0.5890	< 0.5890	< 0.5890	< 0.5890
Sodium	236.0000	246.0000	232.0000	278.0000	254.0000	234.0000	294.0000	271.0000
Thallium	< 6.6200	< 6.6200	< 6.6200	< 6.6200	< 6.6200	8.0700	< 6.6200	< 6.6200
Vanadium	11.2000	9.8700	7.3800	15.7000	12.8000	10.8000	14.3000	13.7000
Zinc	125.0000**	157.0000**	102.0000	310.0000**	467.0000**	275.0000**	523.0000**	1610.0000**

tes: ** = Value is above the background concentration for the depth shown, < = Not detected at the value shown, NA = Not analyzed

TOOELE AD-NORTH AREA: SWMU NO. 26 - DRMO STORAGE YARD
SOIL ANALYTICAL RESULTS FOR METALS

Sample ID	SS-26-045
Lab ID	01L1*508
Date Sampled	07/07/92
Depth (ft)	0.000 ft
Metals and Cyanide (ug/g)	
Aluminum	6390.0000
Antimony	< 7.1400
Arsenic	10.4000
Barium	137.0000
Beryllium	0.9010
Cadmium	14.9000**
Calcium	12400.0000
Chromium	40.5000**
Cobalt	4.9600
Copper	107.0000**
Cyanide	< 0.9200
Iron	20100.0000
Lead	296.0000**
Magnesium	3210.0000
Manganese	382.0000
Mercury	< 0.0500
Nickel	24.5000**
Potassium	2070.0000
Selenium	< 0.2500
Silver	1.2100**
Sodium	306.0000
Thallium	16.7000**
Vanadium	10.4000
Zinc	2010.0000**

Note: is above the background concentration for the depth shown, ected at the value shown, NA = Not analyzed

TOOELE AD-NORTH AREA: SWMU ... 26 - DRMO STORAGE YARD
SOIL ANALYTICAL RESULTS FOR ORGANIC COMPOUNDS

mple ID	SB-26-001	SB-26-001	SB-26-002	SB-26-002	SB-26-003	SB-26-003	SB-26-004	SB-26-004
b ID	OIL1*479	OIL1*463	OIL1*480	OIL1*464	OIL1*481	OIL1*465	OIL1*482	OIL1*466
te Sampled	06/23/92	06/23/92	06/23/92	06/23/92	06/23/92	06/23/92	06/23/92	06/23/92
pth (ft)	0.000 ft	1.000 ft	0.000 ft	1.000 ft	0.000 ft	1.000 ft	0.000 ft	1.000 ft
latile Organic Compounds (ug/g)								
Acetone	< 0.0170	< 0.0170	< 0.0170	< 0.0170	< 0.0170	< 0.0170	< 0.0170	< 0.0170
Trichlorofluoromethane	< 0.0059	< 0.0059	< 0.0059	< 0.0059	< 0.0059	< 0.0059	< 0.0059	< 0.0059
mivolatile Organic Compounds (ug/g)								
2,6,10,14-Tetramethylpentadecane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
2-Cyclohexen-1-one (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
Benzo[a]anthracene	< 4.0000	< 0.1700	< 4.0000	< 0.8000	< 4.0000	< 4.0000	< 0.1700	< 0.8000
Benzo[a]pyrene	< 6.0000	< 0.2500	< 6.0000	< 1.0000	< 6.0000	< 6.0000	< 0.2500	< 1.0000
Benzo[b]fluoranthene	< 5.0000	< 0.2100	< 5.0000	< 1.0000	< 5.0000	< 5.0000	< 0.2100	< 1.0000
Benzo[k]fluoranthene	< 2.0000	< 0.0660	< 2.0000	< 0.3000	< 2.0000	< 2.0000	< 0.0660	< 0.3000
Bis (2-ethylhexyl) phthalate	< 20.0000	< 0.6200	< 20.0000	< 3.0000	< 20.0000	< 20.0000	< 0.6200	< 3.0000
Chrysene	< 3.0000	< 0.1200	< 3.0000	< 0.6000	< 3.0000	< 3.0000	< 0.1200	< 0.6000
Eicosane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	< 2.0000	< 0.0680	< 2.0000	< 0.3000	< 2.0000	< 2.0000	< 0.0680	< 0.3000
Heptadecane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
Hexadecane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
Octadecane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
Octadecanoic acid, butyl ester (TIC)	NA	NA	NA	1.0000**	NA	NA	NA	NA
Phenanthrene	< 0.8000	< 0.0330	< 0.8000	< 0.2000	< 0.8000	< 0.8000	< 0.0330	< 0.2000
Pyrene	< 0.8000	< 0.0330	< 0.8000	< 0.2000	< 0.8000	< 0.8000	< 0.0330	< 0.2000
sticides (ug/g)	ND	ND	ND	ND	ND	ND	ND	ND
rbicides (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA
tal Petroleum Hydrocarbons (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA
losives (ug/g)	ND	ND	ND	ND	ND	ND	ND	ND
xins/Furans (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA

es: ** = Analyte was detected at the concentration shown < = Not detected at the value shown, NA = Not analyzed

TOOELE AD-NORTH AREA: SWMU NO. 26 - DRMO STORAGE YARD
SOIL ANALYTICAL RESULTS FOR ORGANIC COMPOUNDS

Sample ID	SB-26-004-DUP	SB-26-005	SB-26-005	SB-26-006	SB-26-006	SB-26-007	SB-26-007	SB-26-008
Lab ID	OIL1*478	OIL1*483	OIL1*467	OIL1*484	OIL1*468	OIL1*485	OIL1*469	OIL1*486
Date Sampled	06/23/92	06/23/92	06/23/92	06/23/92	06/23/92	06/23/92	06/23/92	06/24/92
Depth (ft)	1.000 ft	0.000 ft	1.000 ft	0.000 ft	1.000 ft	0.000 ft	1.000 ft	0.000 ft
Volatile Organic Compounds (ug/g)								
Acetone	< 0.0170	< 0.0170	< 0.0170	< 0.0170	< 0.0170	< 0.0170	< 0.0170	< 0.0170
Trichlorofluoromethane	< 0.0059	< 0.0059	< 0.0059	< 0.0059	< 0.0059	< 0.0059	< 0.0059	< 0.0059
Semivolatile Organic Compounds (ug/g)								
2,6,10,14-Tetramethylpentadecane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
2-Cyclohexen-1-one (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
Benzo[a]anthracene	< 0.8000	< 0.1700	< 0.1700	< 0.8000	< 0.8000	< 0.8000	5.0000**	< 0.1700
Benzo[a]pyrene	< 1.0000	< 0.2500	< 0.2500	< 1.0000	< 1.0000	< 1.0000	9.0000**	< 0.2500
Benzo[b]fluoranthene	< 1.0000	< 0.2100	< 0.2100	< 1.0000	< 1.0000	< 1.0000	10.0000**	< 0.2100
Benzo[k]fluoranthene	< 0.3000	< 0.0660	< 0.0660	< 0.3000	< 0.3000	< 0.3000	5.0000**	< 0.0660
Bis (2-ethylhexyl) phthalate	< 3.0000	< 0.6200	< 0.6200	< 3.0000	< 3.0000	< 3.0000	< 20.0000	< 0.6200
Chrysene	< 0.6000	< 0.1200	< 0.1200	< 0.6000	< 0.6000	< 0.6000	10.0000**	< 0.1200
Eicosane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	< 0.3000	0.1300**	< 0.0680	< 0.3000	< 0.3000	< 0.3000	6.0000**	< 0.0680
Heptadecane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
Hexadecane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
Octadecane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
Octadecanoic acid, butyl ester (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	< 0.2000	0.0570**	< 0.0330	< 0.2000	< 0.2000	0.2000**	3.0000**	< 0.0330
Pyrene	< 0.2000	0.1200**	< 0.0330	< 0.2000	< 0.2000	0.4000**	9.0000**	< 0.0330
Pesticides (ug/g)	ND	ND	ND	ND	ND	ND	ND	ND
Herbicides (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA
Total Petroleum Hydrocarbons (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA
Explosives (ug/g)	ND	ND	ND	ND	ND	ND	ND	ND
Dioxins/Furans (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA

Notes: e was detected at the concentration shown < = Not detected at shown, NA = Not analyzed

TOOELE AD-NORTH AREA: SWMU 26 - DRMO STORAGE YARD
SOIL ANALYTICAL RESULTS FOR ORGANIC COMPOUNDS

Sample ID	SB-26-008	SB-26-009	SB-26-009	SB-26-010	SB-26-010	SB-26-011	SB-26-011	SB-26-011-DUP
Lab ID	OIL1*470	OIL1*487	OIL1*471	OIL1*488	OIL1*472	OIL1*489	OIL1*473	OIL1*524
Date Sampled	06/24/92	06/24/92	06/24/92	06/24/92	06/24/92	06/24/92	06/24/92	06/24/92
Depth (ft)	1.000 ft	0.000 ft	1.000 ft	0.000 ft	1.000 ft	0.000 ft	1.000 ft	1.000 ft
Volatile Organic Compounds (ug/g)								
Acetone	< 0.0170	< 0.0170	< 0.0170	< 0.0170	< 0.0170	< 0.0170	< 0.0170	< 0.0170
Trichlorofluoromethane	< 0.0059	< 0.0059	< 0.0059	< 0.0059	< 0.0059	0.0058**	< 0.0059	0.0081**
Semivolatile Organic Compounds (ug/g)								
2,6,10,14-Tetramethylpentadecane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
2-Cyclohexen-1-one (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
Benzo[a]anthracene	< 0.1700	< 0.8000	< 0.1700	< 0.1700	< 0.1700	< 2.0000	< 0.1700	< 0.1700
Benzo[a]pyrene	< 0.2500	< 1.0000	< 0.2500	< 0.2500	< 0.2500	< 2.0000	< 0.2500	< 0.2500
Benzo[b]fluoranthene	< 0.2100	< 1.0000	< 0.2100	< 0.2100	< 0.2100	< 2.0000	< 0.2100	< 0.2100
Benzo[k]fluoranthene	< 0.0660	< 0.3000	< 0.0660	< 0.0660	< 0.0660	< 0.7000	< 0.0660	< 0.0660
Bis (2-ethylhexyl) phthalate	< 0.6200	< 3.0000	< 0.6200	0.8200**	< 0.6200	< 6.0000	< 0.6200	< 0.6200
Chrysene	< 0.1200	< 0.6000	< 0.1200	< 0.1200	< 0.1200	< 1.0000	< 0.1200	< 0.1200
Eicosane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	< 0.0680	< 0.3000	< 0.0680	< 0.0680	< 0.0680	< 0.7000	< 0.0680	< 0.0680
Heptadecane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
Hexadecane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
Octadecane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
Octadecanoic acid, butyl ester (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	< 0.0330	< 0.2000	< 0.0330	0.0380**	< 0.0330	< 0.3000	< 0.0330	< 0.0330
Pyrene	< 0.0330	< 0.2000	< 0.0330	< 0.0330	< 0.0330	< 0.3000	< 0.0330	< 0.0330
Pesticides (ug/g)	ND	ND	ND	ND	ND	ND	ND	ND
Herbicides (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA
Total Petroleum Hydrocarbons (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA
Explosives (ug/g)	ND	ND	ND	ND	ND	ND	ND	ND
Dioxins/Furans (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA

Notes: ** = Analyte was detected at the concentration shown < = Not detected at the value shown, NA = Not analyzed

TOOELE AD-NORTH AREA: SWMU NO. 26 - DRMO STORAGE YARD
SOIL ANALYTICAL RESULTS FOR ORGANIC COMPOUNDS

Sample ID	SB-26-012	SB-26-012	SB-26-013	SB-26-013	SB-26-014	SB-26-014	SB-26-015	SB-26-015
Lab ID	OIL1*490	OIL1*474	OIL1*491	OIL1*475	OIL1*492	OIL1*476	OIL1*493	OIL1*477
Date Sampled	06/24/92	06/24/92	06/24/92	06/24/92	06/24/92	06/24/92	06/24/92	06/24/92
Depth (ft)	0.000 ft	1.000 ft	0.000 ft	1.000 ft	0.000 ft	1.000 ft	0.000 ft	1.000 ft
Volatile Organic Compounds (ug/g)								
Acetone	< 0.0170	< 0.0170	< 0.0170	< 0.0170	< 0.0170	< 0.0170	< 0.0170	< 0.0170
Trichlorofluoromethane	< 0.0059	< 0.0059	0.0068**	< 0.0059	0.0087**	< 0.0059	0.0082**	< 0.0059
Semivolatile Organic Compounds (ug/g)								
2,6,10,14-Tetramethylpentadecane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
2-Cyclohexen-1-one (TIC)	NA	NA	NA	NA	NA	NA	0.3100**	NA
Benzo[a]anthracene	< 2.0000	< 2.0000	< 0.1700	< 0.1700	< 0.1700	< 0.1700	< 0.1700	< 0.1700
Benzo[a]pyrene	< 2.0000	< 2.0000	< 0.2500	< 0.2500	< 0.2500	< 0.2500	< 0.2500	< 0.2500
Benzo[b]fluoranthene	< 2.0000	< 2.0000	< 0.2100	< 0.2100	< 0.2100	< 0.2100	< 0.2100	< 0.2100
Benzo[k]fluoranthene	< 0.7000	< 0.7000	< 0.0660	< 0.0660	< 0.0660	< 0.0660	< 0.0660	< 0.0660
Bis (2-ethylhexyl) phthalate	< 6.0000	< 6.0000	< 0.6200	< 0.6200	< 0.6200	< 0.6200	< 0.6200	< 0.6200
Chrysene	< 1.0000	< 1.0000	< 0.1200	< 0.1200	< 0.1200	< 0.1200	< 0.1200	< 0.1200
Eicosane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	< 0.7000	< 0.7000	< 0.0680	< 0.0680	< 0.0680	< 0.0680	< 0.0680	< 0.0680
Heptadecane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
Hexadecane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
Octadecane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
Octadecanoic acid, butyl ester (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	< 0.3000	< 0.3000	< 0.0330	< 0.0330	< 0.0330	0.0460**	< 0.0330	< 0.0330
Pyrene	< 0.3000	< 0.3000	< 0.0330	< 0.0330	< 0.0330	0.0870**	< 0.0330	< 0.0330
Pesticides (ug/g)	ND	ND	ND	ND	ND	ND	ND	ND
Herbicides (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA
Total Petroleum Hydrocarbons (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA
Explosives (ug/g)	ND	ND	ND	ND	ND	ND	ND	ND
Dioxins/Furans (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA

Notes: ** = Analyte was detected at the concentration shown < = Not detected at the value shown, NA = Not analyzed

TOOELE AD-NORTH AREA: SWMU .. 26 - DRMO STORAGE YARD
SOIL ANALYTICAL RESULTS FOR ORGANIC COMPOUNDS

Sample ID	SS-26-016	SS-26-017	SS-26-018	SS-26-019	SS-26-019-DUP	SS-26-020	SS-26-021	SS-26-022
Lab ID	OIL1*509	OIL1*510	OIL1*511	OIL1*512	OIL1*526	OIL1*513	OIL1*514	OIL1*515
Date Sampled	06/29/92	06/29/92	06/29/92	06/29/92	06/29/92	06/29/92	06/29/92	06/29/92
Depth (ft)	0.000 ft	0.000 ft	0.000 ft	0.000 ft	0.000 ft	0.000 ft	0.000 ft	0.000 ft
Volatile Organic Compounds (ug/g)								
Acetone	< 0.0170	< 0.0170	< 0.0170	< 0.0170	< 0.0170	< 0.0170	< 0.0170	< 0.0170
Trichlorofluoromethane	< 0.0059	< 0.0059	< 0.0059	< 0.0059	< 0.0059	< 0.0059	< 0.0059	< 0.0059
Semivolatile Organic Compounds (ug/g)								
2,6,10,14-Tetramethylpentadecane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
2-Cyclohexen-1-one (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
Benzo[a]anthracene	< 0.1700	< 0.8000	< 0.8000	< 0.8000	< 0.8000	< 0.8000	< 0.8000	< 0.1700
Benzo[a]pyrene	< 0.2500	< 1.0000	< 1.0000	< 1.0000	< 1.0000	< 1.0000	< 1.0000	< 0.2500
Benzo[b]fluoranthene	< 0.2100	< 1.0000	< 1.0000	< 1.0000	< 1.0000	< 1.0000	< 1.0000	< 0.2100
Benzo[k]fluoranthene	< 0.0660	< 0.3000	< 0.3000	< 0.3000	< 0.3000	< 0.3000	< 0.3000	0.1300**
Bis (2-ethylhexyl) phthalate	< 0.6200	< 3.0000	< 3.0000	< 3.0000	< 3.0000	< 3.0000	< 3.0000	< 0.6200
Chrysene	< 0.1200	< 0.6000	< 0.6000	< 0.6000	< 0.6000	< 0.6000	< 0.6000	0.2400**
Eicosane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	0.1200**	< 0.3000	< 0.3000	< 0.3000	< 0.3000	< 0.3000	< 0.3000	0.3300**
Heptadecane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
Hexadecane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
Octadecane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
Octadecanoic acid, butyl ester (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	0.0630**	< 0.2000	< 0.2000	< 0.2000	< 0.2000	< 0.2000	< 0.2000	0.1900**
Pyrene	0.1200**	< 0.2000	< 0.2000	< 0.2000	< 0.2000	< 0.2000	< 0.2000	0.2000**
Pesticides (ug/g)	ND	ND	ND	ND	ND	ND	ND	ND
Herbicides (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA
Total Petroleum Hydrocarbons (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA
Explosives (ug/g)	ND	ND	ND	ND	ND	ND	ND	ND
Dioxins/Furans (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA

Notes: ** = Analyte was detected at the concentration shown < = Not detected at the value shown, NA = Not analyzed

TOOELE AD-NORTH AREA: SWMU NO. 26 - DRMO STORAGE YARD
SOIL ANALYTICAL RESULTS FOR ORGANIC COMPOUNDS

Sample ID	SS-26-023	SS-26-024	SS-26-025	SS-26-025-DUP	SS-26-026	SS-26-027	SS-26-028	SS-26-02[illegible]
Lab ID	OIL1*516	OIL1*517	OIL1*518	OIL1*527	OIL1*519	OIL1*520	OIL1*521	OIL1*522
Date Sampled	06/29/92	06/30/92	06/30/92	06/30/92	06/30/92	06/30/92	06/30/92	06/30/92
Depth (ft)	0.000 ft	0.000 ft	0.000 ft	0.000 ft	0.000 ft	0.000 ft	0.000 ft	0.000 ft
Volatile Organic Compounds (ug/g)								
Acetone	0.0510**	< 0.0170	< 0.0170	< 0.0170	< 0.0170	< 0.0170	< 0.0170	< 0.0170
Trichlorofluoromethane	< 0.0059	< 0.0059	< 0.0059	< 0.0059	0.0071**	< 0.0059	< 0.0059	< 0.0059
Semivolatile Organic Compounds (ug/g)								
2,6,10,14-Tetramethylpentadecane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
2-Cyclohexen-1-one (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
Benzo[a]anthracene	< 3.0000	< 3.0000	< 7.0000	< 7.0000	< 2.0000	< 7.0000	< 3.0000	< 2.0000
Benzo[a]pyrene	< 5.0000	< 5.0000	< 10.0000	< 10.0000	< 2.0000	< 10.0000	< 5.0000	< 2.0000
Benzo[b]fluoranthene	< 4.0000	< 4.0000	< 8.0000	< 8.0000	< 2.0000	< 8.0000	< 4.0000	< 2.0000
Benzo[k]fluoranthene	< 1.0000	2.0000**	< 3.0000	< 3.0000	< 0.7000	< 3.0000	< 1.0000	< 0.7000
Bis (2-ethylhexyl) phthalate	< 10.0000	< 10.0000	< 20.0000	< 20.0000	< 6.0000	< 20.0000	< 10.0000	< 6.0000
Chrysene	< 2.0000	< 2.0000	< 5.0000	< 5.0000	< 1.0000	< 5.0000	< 2.0000	< 1.0000
Eicosane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	< 1.0000	2.0000**	< 3.0000	< 3.0000	< 0.7000	< 3.0000	< 1.0000	< 0.7000
Heptadecane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
Hexadecane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
Octadecane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
Octadecanoic acid, butyl ester (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	< 0.7000	0.9000**	< 1.0000	< 1.0000	< 0.3000	< 1.0000	< 0.7000	< 0.3000
Pyrene	< 0.7000	2.0000**	< 1.0000	< 1.0000	< 0.3000	< 1.0000	< 0.7000	< 0.3000
Pesticides (ug/g)	ND	ND	ND	ND	ND	ND	ND	ND
Herbicides (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA
Total Petroleum Hydrocarbons (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA
Explosives (ug/g)	ND	ND	ND	ND	ND	ND	ND	ND
Dioxins/Furans (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA

Notes: ** [illegible] e was detected at the concentration shown < = Not detected at [illegible] shown, NA = Not analyzed

TOOELE AD-NORTH AREA: SWMU No. 26 - DRMO STORAGE YARD
SOIL ANALYTICAL RESULTS FOR ORGANIC COMPOUNDS

Sample ID	SS-26-030	SS-26-031	SS-26-032	SS-26-033	SS-26-034	SS-26-034-DUP	SS-26-035	SS-26-035-DUP
Lab ID	OIL1*523	OIL1*494	OIL1*495	OIL1*496	OIL1*497	OIL1*528	OIL1*498	OIL1*529
Date Sampled	06/30/92	06/30/92	06/30/92	06/30/92	07/07/92	07/07/92	07/07/92	07/07/92
Depth (ft)	0.000 ft	0.000 ft	0.000 ft	0.000 ft	0.000 ft	0.000 ft	0.000 ft	0.000 ft
Volatile Organic Compounds (ug/g)								
Acetone	< 0.0170	< 0.0170	< 0.0170	< 0.0170	< 0.0170	< 0.0170	< 0.0170	< 0.0170
Trichlorofluoromethane	< 0.0059	< 0.0059	0.0110**	< 0.0059	< 0.0059	< 0.0059	< 0.0059	< 0.0059
Semivolatile Organic Compounds (ug/g)								
2,6,10,14-Tetramethylpentadecane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
2-Cyclohexen-1-one (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
Benzo[a]anthracene	< 3.0000	< 7.0000	< 7.0000	< 3.0000	< 0.8000	< 0.8000	< 1.7000	NA
Benzo[a]pyrene	< 5.0000	< 10.0000	< 10.0000	< 5.0000	< 1.2500	< 1.2500	< 2.0000	NA
Benzo[b]fluoranthene	< 4.0000	< 8.0000	< 8.0000	< 4.0000	< 1.0500	< 1.0500	< 2.1000	NA
Benzo[k]fluoranthene	< 1.0000	< 3.0000	< 3.0000	< 1.0000	< 0.3300	< 0.3300	< 0.6600	NA
Bis (2-ethylhexyl) phthalate	< 10.0000	< 20.0000	< 20.0000	< 10.0000	< 3.1000	< 3.1000	< 6.2000	NA
Chrysene	< 2.0000	< 5.0000	< 5.0000	< 2.0000	< 0.6000	< 0.6000	< 1.2000	NA
Eicosane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	< 1.0000	< 3.0000	< 3.0000	< 1.0000	< 0.3400	< 0.3400	< 0.6800	NA
Heptadecane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
Hexadecane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
Octadecane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
Octadecanoic acid, butyl ester (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	2.0000**	< 1.0000	< 1.0000	< 0.7000	< 0.1650	< 0.1650	< 0.3300	NA
Pyrene	2.0000**	< 1.0000	< 1.0000	< 0.7000	< 0.1650	< 0.1650	< 0.3300	NA
sticides (ug/g)	ND	ND	ND	ND	ND	ND	ND	NA
rbicides (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA
tal Petroleum Hydrocarbons (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA
plosives (ug/g)	ND	ND	ND	ND	ND	ND	ND	NA
oxins/Furans (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA

tes: ** = Analyte was detected at the concentration shown < = Not detected at the value shown, NA = Not analyzed

TOOELE AD-NORTH AREA: SWMU NO. 26 - DRMO STORAGE YARD
SOIL ANALYTICAL RESULTS FOR ORGANIC COMPOUNDS

Sample ID	SS-26-036	SS-26-037	SS-26-038	SS-26-039	SS-26-040	SS-26-041	SS-26-042	SS-26-043
Lab ID	OIL1*499	OIL1*500	OIL1*501	OIL1*502	OIL1*503	OIL1*504	OIL1*505	OIL1*506
Date Sampled	07/07/92	07/07/92	07/07/92	07/07/92	07/07/92	07/07/92	07/07/92	07/07/92
Depth (ft)	0.000 ft	0.000 ft	0.000 ft	0.000 ft	0.000 ft	0.000 ft	0.000 ft	0.000 ft
Volatile Organic Compounds (ug/g)								
Acetone	< 0.0170	< 0.0170	< 0.0170	< 0.0170	< 0.0170	< 0.0170	< 0.0170	< 0.0170
Trichlorofluoromethane	< 0.0059	< 0.0059	0.0071**	< 0.0059	< 0.0059	< 0.0059	< 0.0059	< 0.0059
Semivolatile Organic Compounds (ug/g)								
2,6,10,14-Tetramethylpentadecane (TIC)	NA	NA	6.2000**	7.0800**	NA	NA	4.0700**	NA
2-Cyclohexen-1-one (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
Benzo[a]anthracene	< 1.7000	< 1.7000	< 1.7000	< 1.7000	< 1.7000	< 1.7000	< 1.7000	< 1.7000
Benzo[a]pyrene	< 2.0000	< 2.0000	< 2.0000	< 2.0000	< 2.0000	< 2.0000	< 2.0000	< 2.0000
Benzo[b]fluoranthene	< 2.1000	< 2.1000	< 2.1000	< 2.1000	< 2.1000	< 2.1000	< 2.1000	< 2.1000
Benzo[k]fluoranthene	< 0.6600	< 0.6600	< 0.6600	< 0.6600	< 0.6600	< 0.6600	< 0.6600	< 0.6600
Bis (2-ethylhexyl) phthalate	< 6.2000	< 6.2000	< 6.2000	< 6.2000	< 6.2000	< 6.2000	< 6.2000	< 6.2000
Chrysene	< 1.2000	< 1.2000	< 1.2000	< 1.2000	< 1.2000	< 1.2000	< 1.2000	< 1.2000
Eicosane (TIC)	NA	NA	NA	20.2000**	NA	NA	NA	NA
Fluoranthene	< 0.6800	< 0.6800	< 0.6800	< 0.68[illegible]	< 0.6800	< 0.6800	< 0.6800	< 0.6800
Heptadecane (TIC)	NA	NA	NA	7.0800[illegible]	NA	NA	9.0000**	NA
Hexadecane (TIC)	NA	NA	NA	3.0300**	NA	NA	4.0700**	NA
Octadecane (TIC)	NA	NA	NA	9.0000**	NA	NA	10.2000**	NA
Octadecanoic acid, butyl ester (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	< 0.3300	< 0.3300	< 0.3300	0.9000**	< 0.3300	< 0.3300	< 0.3300	< 0.3300
Pyrene	< 0.3300	< 0.3300	< 0.3300	0.7180**	< 0.3300	< 0.3300	< 0.3300	< 0.3300
Pesticides (ug/g)	ND	ND	ND	ND	ND	ND	ND	ND
Herbicides (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA
Total Petroleum Hydrocarbons (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA
Explosives (ug/g)	ND	ND	ND	ND	ND	ND	ND	ND
Dioxins/Furans (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA

Notes: ** = [illegible]e was detected at the concentration shown < = Not detected at t[illegible] shown, NA = Not analyzed

TOOELE AD-NORTH AREA: SWM. .J. 26 - DRMO STORAGE YARD
SOIL ANALYTICAL RESULTS FOR ORGANIC COMPOUNDS

Sample ID	SS-26-044	SS-26-045
Lab ID	OIL1*507	OIL1*508
Date Sampled	07/07/92	07/07/92
Depth (ft)	0.000 ft	0.000 ft
Volatile Organic Compounds (ug/g)		
Acetone	< 0.0170	< 0.0170
Trichlorofluoromethane	< 0.0059	< 0.0059
Semivolatile Organic Compounds (ug/g)		
2,6,10,14-Tetramethylpentadecane (TIC)	NA	NA
2-Cyclohexen-1-one (TIC)	NA	NA
Benzo[a]anthracene	< 0.1700	< 0.8000
Benzo[a]pyrene	< 0.2500	< 1.2500
Benzo[b]fluoranthene	< 0.2100	< 1.0500
Benzo[k]fluoranthene	< 0.0660	< 0.3300
Bis (2-ethylhexyl) phthalate	< 0.6200	< 3.1000
Chrysene	< 0.1200	< 0.6000
Eicosane (TIC)	NA	NA
Fluoranthene	< 0.0680	< 0.3400
Heptadecane (TIC)	NA	NA
Hexadecane (TIC)	NA	NA
Octadecane (TIC)	NA	NA
Octadecanoic acid, butyl ester (TIC)	NA	NA
Phenanthrene	< 0.0330	< 0.1650
Pyrene	< 0.0330	< 0.1650
icides (ug/g)	ND	ND
cides (ug/g)	NA	NA
otal Petroleum Hydrocarbons (ug/g)	NA	NA
xplosives (ug/g)	ND	ND
ioxins/Furans (ug/g)	NA	NA

otes: ** = Analyte was detected at the concentration shown < = Not detected at the value shown, NA = Not analyzed

Table 5-14

MONTGOMERY WATSON

TABLE 5-14

RCRA CONTAINER STORAGE (SWMU 27) ANALYTICAL RESULTS

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TOOELE AD-NORTH AREA: SWMU NO. 27 - RCRA CONTAINER STORAGE AREA
SOIL ANALYTICAL RESULTS FOR METALS

Sample ID	SS-27-001	SS-27-001-DUP	SS-27-002	SS-27-003	SS-27-004	SS-27-005	SS-27-006	SS-27-007
Lab ID	OIL1*433	OIL1*533	OIL1*534	OIL1*535	OIL1*536	OIL1*537	OIL1*538	OIL1*539
Date Sampled	07/15/92	07/15/92	07/15/92	07/15/92	07/15/92	07/15/92	07/15/92	07/15/92
Depth (ft)	0.000 ft	0.000 ft	0.000 ft	0.000 ft	0.000 ft	0.000 ft	0.000 ft	0.000 ft
Metals and Cyanide (ug/g)								
Aluminum	2740.0000	1830.0000	1800.0000	4160.0000	1320.0000	1630.0000	2780.0000	4230.0000
Antimony	< 7.1400	< 7.1400	9.2200**	< 7.1400	< 7.1400	< 7.1400	9.3700**	< 7.1400
Arsenic	5.4600	7.6700	7.2800	16.0000	8.1100	7.9700	21.0000	15.0000
Barium	107.0000	128.0000	214.0000	83.3000	102.0000	137.0000	179.0000	94.2000
Beryllium	< 0.5000	< 0.5000	< 0.5000	0.5860	< 0.5000	0.6510	0.5850	0.6760
Cadmium	12.0000**	16.9000**	1.7800**	0.8800**	10.1000**	14.0000**	12.3000**	2.3300**
Calcium	110000.0000**	120000.0000**	190000.0000**	30400.0000	110000.0000**	120000.0000**	57000.0000	51200.0000
Chromium	76.3000**	81.7000**	18.9000	12.1000	190.0000**	313.0000**	67.9000**	28.6000**
Cobalt	4.8300	5.1600	1.7200	2.5400	4.2700	5.2000	2.8900	2.6200
Copper	19.6000	22.2000	6.8400	15.4000	18.7000	27.8000**	59.9000**	18.6000
Cyanide	< 0.9200	< 0.9200	< 0.9200	< 0.9200	< 0.9200	< 0.9200	< 0.9200	< 0.9200
Iron	6490.0000	6720.0000	3500.0000	5930.0000	5370.0000	7140.0000	7680.0000	6140.0000
Lead	135.0000**	194.0000**	33.3000	58.9000**	415.0000**	562.0000**	561.0000**	162.0000**
Magnesium	26600.0000**	26300.0000**	22100.0000**	7750.0000	26200.0000**	28100.0000**	8560.0000	6970.0000
Manganese	145.0000	180.0000	108.0000	245.0000	133.0000	148.0000	233.0000	205.0000
Mercury	11.0000**	17.0000**	0.3510**	< 0.0500	2.3000**	0.3220**	1.8000**	< 0.0500
Nickel	15.6000	16.3000	7.4700	7.5900	9.8400	17.4000**	12.0000	7.4900
Potassium	848.0000	644.0000	598.0000	1470.0000	395.0000	500.0000	961.0000	1400.0000
Selenium	< 0.7500	< 0.2500	< 0.2500	< 0.2500	< 0.2500	0.3750**	< 0.2500	0.3590**
Silver	< 0.5890	< 0.5890	< 0.5890	< 0.5890	< 0.5890	< 0.5890	< 0.5890	< 0.5890
Sodium	477.0000	488.0000	839.0000	296.0000	389.0000	415.0000	330.0000	485.0000
Thallium	11.1000**	11.3000**	13.9000**	< 6.6200	14.6000**	16.1000**	< 6.6200	< 6.6200
Vanadium	15.6000	12.5000	13.4000	10.7000	12.5000	15.7000	8.9400	10.6000
Zinc	140.0000**	164.0000**	51.5000	67.5000	334.0000**	426.0000**	212.0000**	98.0000

Notes: ** is above the background concentration for the depth shown, < [illegible] cted at the value shown, NA = Not analyzed

TOOELE AD-NORTH AREA: SWMU . .7 - RCRA CONTAINER STORAGE AREA
SOIL ANALYTICAL RESULTS FOR ORGANIC COMPOUNDS

Sample ID	SS-27-001	SS-27-001-DUP	SS-27-002	SS-27-003	SS-27-004	SS-27-005	SS-27-006	SS-27-007
Lab ID	OIL1*433	OIL1*533	OIL1*534	OIL1*535	OIL1*536	OIL1*537	OIL1*538	OIL1*539
Date Sampled	07/15/92	07/15/92	07/15/92	07/15/92	07/15/92	07/15/92	07/15/92	07/15/92
Depth (ft)	0.000 ft	0.000 ft	0.000 ft	0.000 ft	0.000 ft	0.000 ft	0.000 ft	0.000 ft
Volatile Organic Compounds (ug/g)								
Hexane (TIC)	NA	0.0065**	0.0084**	0.0110**	0.0063**	0.0053**	0.0084**	0.0094**
Semivolatile Organic Compounds (ug/g)	ND	ND	ND	ND	ND	ND	ND	ND
Pesticides (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA
Herbicides (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA
Total Petroleum Hydrocarbons (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA
Explosives (ug/g)	ND	ND	ND	ND	ND	ND	ND	ND
Dioxins/Furans (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA

Notes: ** = Analyte was detected at the concentration shown < = Not detected at the value shown, NA = Not analyzed

Table 5-15

TABLE 5-15

90-DAY CONTAINER STORAGE AREA
(SWMU 28)
ANALYTICAL RESULTS

TOOELE AD-NORTH AREA: SWMU NO. 28 - 90-DAY DRUM STORAGE AREA
SOIL ANALYTICAL RESULTS FOR METALS

Sample ID	SS-28-001	SS-28-001-DUP	SS-28-002	SS-28-003	SS-28-004	SS-28-005	SS-28-006	SS-28-0
Lab ID	OIL1*540	OIL1*548	OIL1*541	OIL1*542	OIL1*543	OIL1*544	OIL1*545	OIL1*54
Date Sampled	07/14/92	07/14/92	07/14/92	07/14/92	07/14/92	07/14/92	07/14/92	07/14/9
Depth (ft)	0.000 ft	0.000 ft	0.000 ft	0.000 ft	0.000 ft	0.000 ft	0.000 ft	0.000 ft
Metals and Cyanide (ug/g)								
Aluminum	2430.0000	2740.0000	4360.0000	2980.0000	3090.0000	5800.0000	6320.0000	2530.000
Antimony	< 7.1400	< 7.1400	< 7.1400	< 7.1400	< 7.1400	< 7.1400	< 7.1400	< 7.140
Arsenic	25.0000	24.0000	8.1800	32.0000	35.0000	45.0000	28.0000	20.000
Barium	62.4000	68.4000	95.3000	55.5000	108.0000	129.0000	133.0000	66.900
Beryllium	< 0.5000	< 0.5000	< 0.5000	0.6800	< 0.5000	0.7820	0.7280	0.702
Cadmium	19.6000**	19.1000**	1.0200**	2.0600**	19.3000**	2.7300**	1.7600**	7.270
Calcium	50000.0000	50500.0000	70000.0000**	46700.0000	43300.0000	30100.0000	18900.0000	42800.000
Chromium	24.4000**	28.0000**	23.2000**	15.1000	17.2000	16.6000	10.3000	23.180
Cobalt	1.9800	2.1400	3.1100	1.9200	2.5500	3.4400	3.7400	1.650
Copper	22.9000	29.1000**	15.4000	14.8000	26.5000**	33.4000**	20.9000	18.900
Cyanide	< 0.9200	NA	< 0.9200	< 0.9200	< 0.9200	< 0.9200	< 0.9200	< 0.920
Iron	5740.0000	5030.0000	5990.0000	4850.0000	6000.0000	8060.0000	7910.0000	4780.000
Lead	135.0000**	194.0000**	51.0000	61.7000**	143.0000**	191.0000**	74.9000**	334.000
Magnesium	5820.0000	5310.0000	7190.0000	5080.0000	5320.0000	6660.0000	6420.0000	5460.000
Manganese	167.0000	178.0000	182.0000	175.0000	221.0000	409.0000	409.0000	220.000
Mercury	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500
Nickel	8.0600	6.6000	10.1000	7.2000	5.8400	8.2100	8.7600	5.8300
Potassium	812.0000	859.0000	1180.0000	984.0000	1030.0000	2190.0000	2510.0000	880.0000
Selenium	< 0.2500	0.9640**	< 0.2500	< 0.2500	< 0.2500	< 0.2500	< 0.2500	< 0.2500
Silver	< 0.5890	< 0.5890	< 0.5890	< 0.5890	< 0.5890	< 0.5890	< 0.5890	0.6010
Sodium	350.0000	351.0000	1390.0000	693.0000	756.0000	417.0000	450.0000	524.0000
Thallium	< 6.6200	< 6.6200	< 6.6200	< 6.6200	8.1000	< 6.6200	< 6.6200	< 6.6200
Vanadium	8.0800	8.4600	13.8000	9.7100	8.7300	12.7000	13.3000	8.9500
Zinc	123.0000**	129.0000**	54.6000	72.4000	156.0000**	161.0000**	90.1000	114.0000

Notes: * · · is above the background concentration for the depth shown, < ·- tected at the value shown, NA = Not analyzed

TOOELE AD-NORTH AREA: SWMU No. 28 - 90-DAY DRUM STORAGE AREA
SOIL ANALYTICAL RESULTS FOR METALS

Sample ID	SS-28-008
Lab ID	DIL1*547
Date Sampled	07/14/92
Depth (ft)	0.000 ft
Metals and Cyanide (ug/g)	
Aluminum	3390.0000
Antimony	< 7.1400
Arsenic	30.0000
Barium	70.2000
Beryllium	< 0.5000
Cadmium	6.7400**
Calcium	33200.0000
Chromium	15.2000
Cobalt	2.0600
Copper	21.4000
Cyanide	< 0.9200
Iron	5570.0000
Lead	124.0000**
Magnesium	5040.0000
Manganese	245.0000
Mercury	< 0.0500
Nickel	6.4000
Potassium	1230.0000
Selenium	< 0.2500
Silver	< 0.5890
Sodium	371.0000
Thallium	< 6.6200
Vanadium	8.9900
Zinc	127.0000**

Notes: ** = Value is above the background concentration for the depth shown, < = Not detected at the value shown, NA = Not analyzed

TOOELE AD-NORTH AREA: SWMU NO. 28 - 90-DAY DRUM STORAGE AREA
SOIL ANALYTICAL RESULTS FOR ORGANIC COMPOUNDS

Sample ID	SS-28-001	SS-28-001-DUP	SS-28-002	SS-28-003	SS-28-004	SS-28-005	SS-28-006	SS-28-00
Lab ID	OIL1*540	OIL1*548	OIL1*541	OIL1*542	OIL1*543	OIL1*544	OIL1*545	OIL1*546
Date Sampled	07/14/92	07/14/92	07/14/92	07/14/92	07/14/92	07/14/92	07/14/92	07/14/92
Depth (ft)	0.000 ft	0.000 ft	0.000 ft	0.000 ft	0.000 ft	0.000 ft	0.000 ft	0.000 ft
Volatile Organic Compounds (ug/g)								
Acetone	< 0.0170	< 0.0170	0.0990**	< 0.0170	< 0.0170	< 0.0170	< 0.0170	< 0.0170
Semivolatile Organic Compounds (ug/g)								
Butylbenzyl phthalate	< 0.8000	NA	2.0000**	< 0.8000	< 4.0000	< 4.0000	< 4.0000	< 4.0000
Pesticides (ug/g)	ND	NA	ND	ND	ND	ND	ND	ND
Herbicides (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA
Total Petroleum Hydrocarbons (ug/g)								
Total petroleum hydrocarbons	371.0000**	258.0000**	2160.0000**	833.0000**	2290.0000**	501.0000**	680.0000**	737.0000*
Explosives (ug/g)	ND	NA	ND	ND	ND	ND	ND	ND
Dioxins/Furans (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA

Notes: ** te was detected at the concentration shown < = Not detected at e shown, NA = Not analyzed

TOOELE AD-NORTH AREA: SWMU ... - 90-DAY DRUM STORAGE AREA
SOIL ANALYTICAL RESULTS FOR ORGANIC COMPOUNDS

Sample ID	SS-28-008
Lab ID	DIL1*547
Date Sampled	07/14/92
Depth (ft)	0.000 ft
Volatile Organic Compounds (ug/g)	
Acetone	< 0.0170
Semivolatile Organic Compounds (ug/g)	
Butylbenzyl phthalate	< 4.0000
Pesticides (ug/g)	ND
Herbicides (ug/g)	NA
Total Petroleum Hydrocarbons (ug/g)	
Total petroleum hydrocarbons	95.0000**
Explosives (ug/g)	ND
Dioxins/Furans (ug/g)	NA

Notes: ** = Analyte was detected at the concentration shown < = Not detected at the value shown, NA = Not analyzed

Table 5-16

TABLE 5-16

DRUM STORAGE AREAS (SWMU 29) ANALYTICAL RESULTS

TOOELE AD-NORTH AREA: SWMU NO. 29 - DRUM STORAGE AREA
SOIL ANALYTICAL RESULTS FOR METALS

Sample ID	SB-29-001	SB-29-002	SB-29-003	SB-29-003	SB-29-004	SB-29-005	SB-29-006	SB-29-006
Lab ID	OIL1*549	OIL1*551	OIL1*553	OIL1*554	OIL1*555	OIL1*557	OIL1*559	OIL1*560
Date Sampled	06/11/92	06/11/92	06/12/92	06/12/92	06/11/92	06/11/92	06/15/92	06/15/92
Depth (ft)	0.000 ft	0.000 ft	0.000 ft	3.000 ft	0.000 ft	0.000 ft	0.000 ft	4.000 ft
Metals and Cyanide (ug/g)								
Aluminum	10400.0000	6690.0000	8240.0000	684.0000	5630.0000	7380.0000	7710.0000	2490.0000
Antimony	< 7.1400	< 7.1400	< 7.1400	< 7.1400	< 7.1400	< 7.1400	< 7.1400	< 7.1400
Arsenic	15.0000	17.0000	9.8200	3.2000	28.0000	9.0500	9.7000	5.3200
Barium	173.0000	130.0000	158.0000	26.9000	116.0000	117.0000	126.0000	49.0000
Beryllium	0.7890	< 0.5000	< 0.5000	< 0.5000	< 0.5000	< 0.5000	< 0.5000	< 0.5000
Cadmium	< 0.7000	< 0.7000	< 0.7000	< 0.7000	< 0.7000	< 0.7000	< 0.7000	< 0.7000
Calcium	24200.0000	23700.0000	60000.0000	65000.0000	77000.0000**	42900.0000	34800.0000	70000.0000**
Chromium	13.5000	9.8200	12.7000	6.2400	10.9000	12.9000	12.2000	8.0500
Cobalt	4.6000	3.1000	3.6400	< 1.4200	2.3900	2.9700	3.6800	< 1.4200
Copper	20.1000	16.5000	12.7000	2.7200	14.2000	10.8000	12.1000	3.0500
Cyanide	< 0.9200	< 0.9200	< 0.9200	< 0.9200	< 0.9200	< 0.9200	< 0.9200	< 0.9200
Iron	10800.0000	7390.0000	8360.0000	1630.0000	6450.0000	7700.0000	8320.0000	3130.0000
Lead	47.8000	45.7000	22.6000	3.2100	46.7000	28.0000	26.0000	4.6800
Magnesium	8040.0000	5640.0000	7600.0000	5000.0000	7660.0000	6490.0000	7020.0000	4360.0000
Manganese	455.0000	307.0000	300.0000	43.3000	236.0000	248.0000	313.0000	54.9000
Mercury	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500
Nickel	10.3000	7.8600	7.5000	2.4900	6.5400	7.2400	8.0400	3.4200
Potassium	3470.0000	2310.0000	2640.0000	154.0000	1950.0000	2240.0000	2550.0000	630.0000
Selenium	< 0.2500	< 0.2500	< 0.2500	< 0.2500	< 0.2500	< 0.2500	< 0.2500	< 0.2500
Silver	< 0.5890	< 0.5890	< 0.5890	< 0.5890	< 0.5890	< 0.5890	< 0.5890	< 0.5890
Sodium	314.0000	270.0000	415.0000	196.0000	307.0000	1140.0000	844.0000	211.0000
Thallium	< 6.6200	< 6.6200	< 6.6200	< 6.6200	< 6.6200	< 6.6200	< 6.6200	< 6.6200
Vanadium	16.8000	11.7000	14.5000	4.4600	13.2000	14.3000	14.7000	9.3500
Zinc	93.1000	80.1000	60.9000	11.6000	78.1000	61.2000	69.7000	15.2000

Notes: ** is above the background concentration for the depth shown, < [illegible]cted at the value shown, NA = Not analyzed

TOOELE AD-NORTH AREA: SWMU . 29 - DRUM STORAGE AREA
SOIL ANALYTICAL RESULTS FOR METALS

ample ID	SB-29-007	SB-29-007	SB-29-007-DUP	SB-29-008	SB-29-008	SB-29-009	SB-29-009	SB-29-010
ab ID	OIL1*561	OIL1*562	OIL1*627	OIL1*563	OIL1*564	OIL1*565	OIL1*566	OIL1*567
ate Sampled	06/15/92	06/15/92	06/15/92	06/14/92	06/14/92	06/14/92	06/14/92	06/14/92
epth (ft)	0.000 ft	4.000 ft	4.000 ft	0.000 ft	4.000 ft	0.000 ft	4.000 ft	0.000 ft
etals and Cyanide (ug/g)								
Aluminum	11600.0000	899.0000	874.0000	8700.0000	4230.0000	9980.0000	1150.0000	6640.0000
Antimony	< 7.1400	< 7.1400	< 7.1400	< 7.1400	< 7.1400	< 7.1400	< 7.1400	< 7.1400
Arsenic	10.4000	3.0300	2.6200	8.6500	8.4800	11.7000	2.7200	13.0000
Barium	161.0000	36.6000	30.5000	127.0000	89.3000	140.0000	43.1000	101.0000
Beryllium	0.6050	< 0.5000	< 0.5000	< 0.5000	< 0.5000	< 0.5000	< 0.5000	< 0.5000
Cadmium	< 0.7000	< 0.7000	< 0.7000	< 0.7000	< 0.7000	< 0.7000	< 0.7000	< 0.7000
Calcium	26100.0000	53000.0000	77000.0000**	30700.0000	100000.0000**	29700.0000	88000.0000**	24100.0000
Chromium	14.8000	5.6200	6.3800	11.6000	9.7200	14.0000	6.4900	10.8000
Cobalt	4.1500	< 1.4200	< 1.4200	3.9600	2.5100	3.8400	< 1.4200	2.9800
Copper	15.8000	1.9300	2.0700	13.4000	4.4600	16.6000	2.7600	11.6000
Cyanide	< 0.9200	< 0.9200	< 0.9200	< 0.9200	< 0.9200	< 0.9200	< 0.9200	< 0.9200
Iron	11100.0000	1700.0000	1880.0000	9000.0000	4370.0000	9520.0000	2390.0000	7230.0000
Lead	36.5000	3.3100	2.8400	25.7000	23.0000	32.1000	3.5500	34.9000
Magnesium	8430.0000	3450.0000	4560.0000	7300.0000	6500.0000	9500.0000	3380.0000	5960.0000
Manganese	411.0000	49.0000	58.3000	325.0000	99.6000	333.0000	69.8000	270.0000
Mercury	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500
Nickel	10.6000	2.3800	3.3800	9.1100	6.3800	8.6800	2.7200	6.8200
Potassium	3690.0000	224.0000	203.0000	3000.0000	1200.0000	3350.0000	339.0000	2250.0000
Selenium	< 0.2500	< 0.2500	< 0.2500	< 0.2500	< 0.2500	< 0.2500	< 0.2500	< 0.2500
Silver	< 0.5890	< 0.5890	< 0.5890	< 0.5890	< 0.5890	< 0.5890	< 0.5890	< 0.5890
Sodium	435.0000	172.0000	130.0000	268.0000	287.0000	295.0000	168.0000	238.0000
Thallium	< 6.6200	< 6.6200	< 6.6200	< 6.6200	< 6.6200	< 6.6200	< 6.6200	< 6.6200
Vanadium	18.6000	5.6700	6.7700	14.6000	13.2000	16.2000	8.2400	11.6000
Zinc	78.2000	10.8000	9.8500	103.0000	111.0000**	68.3000	10.6000	59.5000

tes: ** = Value is above the background concentration for the depth shown, < = Not detected at the value shown, NA = Not analyzed

TOOELE AD-NORTH AREA: SWMU NO. 29 - DRUM STORAGE AREA
SOIL ANALYTICAL RESULTS FOR METALS

Sample ID	SB-29-010	SB-29-010-DUP	SB-29-011	SB-29-012	SB-29-012	SB-29-013	SB-29-013	SB-29-014
Lab ID	OIL1*568	OIL1*625	OIL1*570	OIL1*571	OIL1*572	OIL1*573	OIL1*574	OIL1*575
Date Sampled	06/14/92	06/14/92	06/12/92	06/12/92	06/12/92	06/12/92	06/12/92	06/12/92
Depth (ft)	4.000 ft	4.000 ft	3.000 ft	0.500 ft	3.000 ft	0.000 ft	3.000 ft	0.000 ft
Metals and Cyanide (ug/g)								
Aluminum	1680.0000	1720.0000	974.0000	1250.0000	942.0000	1040.0000	1800.0000	3780.0000
Antimony	< 7.1400	< 7.1400	< 7.1400	< 7.1400	< 7.1400	< 7.1400	< 7.1400	< 7.1400
Arsenic	4.3500	5.7600	5.6800	5.0300	3.3100	6.7600	2.7000	5.8900
Barium	43.4000	52.0000	19.5000	74.4000	31.9000	136.0000	24.5000	113.0000
Beryllium	< 0.5000	< 0.5000	< 0.5000	< 0.5000	< 0.5000	< 0.5000	< 0.5000	< 0.5000
Cadmium	< 0.7000	< 0.7000	< 0.7000	< 0.7000	< 0.7000	< 0.7000	< 0.7000	< 0.7000
Calcium	70000.0000**	76000.0000**	54000.0000	93000.0000**	58000.0000	140000.0000**	56000.0000	83000.0000**
Chromium	8.7400	7.8700	< 4.0500	6.6400	5.5300	5.8400	7.1000	8.9100
Cobalt	< 1.4200	< 1.4200	< 1.4200	< 1.4200	< 1.4200	< 1.4200	< 1.4200	< 1.4200
Copper	4.0600	4.3100	2.1300	2.0500	1.6800	1.8800	2.2700	4.7300
Cyanide	< 0.9200	< 0.9200	< 0.9200	< 0.9200	< 0.9200	< 0.9200	< 0.9200	< 0.9200
Iron	2520.0000	2670.0000	2210.0000	2060.0000	1930.0000	2000.0000	2490.0000	4120.0000
Lead	7.1500	12.0000	3.9000	4.6700	3.7800	4.7800	4.9200	5.5300
Magnesium	9900.0000	4400.0000	4950.0000	4670.0000	5440.0000	6130.0000	3910.0000	5260.0000
Manganese	73.2000	92.3000	50.2000	63.6000	46.5000	88.2000	67.1000	126.0000
Mercury	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500
Nickel	3.4200	4.6400	< 1.7100	< 1.7100	2.2900	2.2600	4.6200	4.0900
Potassium	455.0000	484.0000	197.0000	282.0000	243.0000	206.0000	499.0000	964.0000
Selenium	< 0.2500	< 0.2500	< 0.2500	< 0.2500	< 0.2500	< 0.2500	< 0.2500	< 0.2500
Silver	< 0.5890	< 0.5890	< 0.5890	< 0.5890	< 0.5890	< 0.5890	< 0.5890	< 0.5890
Sodium	214.0000	138.0000	187.0000	227.0000	180.0000	308.0000	181.0000	257.0000
Thallium	< 6.6200	< 6.6200	< 6.6200	< 6.6200	< 6.6200	< 6.6200	< 6.6200	< 6.6200
Vanadium	10.3000	8.8700	6.1700	6.7800	5.1300	6.9800	5.5700	11.6000
Zinc	18.7000	20.6000	11.5000	10.8000	9.6600	9.6100	13.2000	23.1000

Notes: * = Is above the background concentration for the depth shown, < = tected at the value shown, NA = Not analyzed

TOOELE AD-NORTH AREA: SWMU NO. 29 - DRUM STORAGE AREA
SOIL ANALYTICAL RESULTS FOR METALS

Sample ID	SB-29-014	SB-29-014-DUP	SB-29-015	SB-29-015-DUP	SB-29-015	SB-29-016	SB-29-016	SB-29-017
Lab ID	OIL1*576	OIL1*624	OIL1*577	OIL1*623	OIL1*578	OIL1*579	OIL1*580	OIL1*581
Date Sampled	06/12/92	06/12/92	06/12/92	06/12/92	06/12/92	06/13/92	06/13/92	06/12/92
Depth (ft)	3.000 ft	3.000 ft	0.000 ft	0.000 ft	3.000 ft	0.000 ft	2.000 ft	0.000 ft
Metals and Cyanide (ug/g)								
Aluminum	1400.0000	916.0000	9410.0000	10600.0000	6430.0000	9850.0000	3710.0000	6540.0000
Antimony	< 7.1400	< 7.1400	< 7.1400	< 7.1400	< 7.1400	< 7.1400	< 7.1400	< 7.1400
Arsenic	4.3900	3.7300	8.9600	7.7900	9.2000	8.2300	8.3800	6.9300
Barium	17.9000	17.6000	129.0000	148.0000	106.0000	128.0000	60.3000	88.2000
Beryllium	< 0.5000	< 0.5000	0.6280	0.8460	< 0.5000	0.6950	< 0.5000	< 0.5000
Cadmium	< 0.7000	< 0.7000	1.1500**	0.9550**	< 0.7000	0.9840**	< 0.7000	< 0.7000
Calcium	58000.0000	58000.0000	33800.0000	28700.0000	50000.0000	40000.0000	69000.0000**	38100.0000
Chromium	7.3900	6.0700	14.0000	15.6000	11.9000	16.7000	10.3000	11.1000
Cobalt	< 1.4200	< 1.4200	4.0300	4.6900	2.8300	3.6000	< 1.4200	2.6600
Copper	1.6700	1.6100	13.9000	15.3000	7.5300	14.1000	5.2400	10.3000
Cyanide	< 0.9200	< 0.9200	< 0.9200	< 0.9200	< 0.9200	< 0.9200	< 0.9200	< 0.9200
Iron	2540.0000	2430.0000	9520.0000	11100.0000	7050.0000	9720.0000	4650.0000	7200.0000
Lead	4.4000	4.2100	29.0000	31.0000	11.4000	31.4000	8.4600	27.9000
Magnesium	5430.0000	5150.0000	6560.0000	7090.0000	5300.0000	6880.0000	4150.0000	6260.0000
Manganese	51.9000	53.9000	355.0000	409.0000	208.0000	355.0000	126.0000	239.0000
Mercury	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500
Nickel	3.3100	3.6800	8.2900	10.9000	6.7100	8.9500	4.5000	6.9400
Potassium	333.0000	238.0000	2870.0000	3310.0000	1790.0000	2940.0000	968.0000	2000.0000
Selenium	< 0.2500	< 0.2500	< 0.2500	< 0.2500	< 0.2500	< 0.2500	< 0.2500	< 0.2500
Silver	< 0.5890	< 0.5890	< 0.5890	< 0.5890	< 0.5890	< 0.5890	< 0.5890	< 0.5890
Sodium	172.0000	155.0000	349.0000	284.0000	245.0000	300.0000	200.0000	215.0000
Thallium	< 6.6200	< 6.6200	< 6.4200	< 6.6200	< 6.6200	< 6.6200	< 6.6200	< 6.6200
Vanadium	7.3800	6.7600	17.2000	18.8000	17.6000	18.2000	15.3000	13.2000
Zinc	12.3000	11.8000	69.2000	79.7000	38.4000	83.6000	29.1000	49.0000

Notes: ** = Value is above the background concentration for the depth shown, < = Not detected at the value shown, NA = Not analyzed

TOOELE AD-NORTH AREA: SWMU NO. 29 - DRUM STORAGE AREA
SOIL ANALYTICAL RESULTS FOR METALS

Sample ID	SB-29-017	SB-29-018	SB-29-018	SB-29-019	SB-29-019	SB-29-020	SB-29-020	SB-29-021
Lab ID	OIL1*582	OIL1*583	OIL1*584	OIL1*585	OIL1*586	OIL1*587	OIL1*588	OIL1*589
Date Sampled	06/12/92	06/13/92	06/13/92	06/13/92	06/13/92	06/13/92	06/13/92	06/14/92
Depth (ft)	3.000 ft	0.000 ft	2.000 ft	0.000 ft	2.000 ft	0.000 ft	2.000 ft	0.000 ft
Metals and Cyanide (ug/g)								
Aluminum	3820.0000	11400.0000	4950.0000	8890.0000	2660.0000	9460.0000	1360.0000	7820.0000
Antimony	< 7.1400	< 7.1400	< 7.1400	< 7.1400	< 7.1400	< 7.1400	< 7.1400	< 7.1400
Arsenic	9.1500	8.5700	8.6600	9.4900	11.4000	8.0900	10.5000	9.0400
Barium	92.4000	153.0000	84.1000	129.0000	47.9000	119.0000	34.7000	263.0000**
Beryllium	< 0.5000	0.9300	< 0.5000	< 0.5000	< 0.5000	< 0.5000	< 0.5000	< 0.5000
Cadmium	< 0.7000	< 0.7000	< 0.7000	< 0.7000	< 0.7000	< 0.7000	< 0.7000	< 0.7000
Calcium	68000.0000	25500.0000	45600.0000	38500.0000	69000.0000**	25500.0000	150000.0000**	150000.0000**
Chromium	23.8000**	14.5000	9.7500	12.9000	11.4000	13.7000	10.5000	11.7000
Cobalt	2.1700	4.6100	2.1500	3.5500	< 1.4200	3.8200	< 1.4200	2.7400
Copper	4.9500	13.8000	6.0900	11.7000	3.5600	11.8000	2.0800	9.3200
Cyanide	< 0.9200	< 0.9200	< 0.9200	< 0.9200	< 0.9200	< 0.9200	< 0.9200	< 0.9200
Iron	6120.0000	11400.0000	5910.0000	8740.0000	4030.0000	9890.0000	2300.0000	7160.0000
Lead	9.2800	22.0000	7.9800	22.0000	5.3900	17.0000	10.0000	16.0000
Magnesium	5260.0000	9370.0000	4110.0000	6400.0000	3580.0000	7220.0000	3870.0000	9480.0000
Manganese	163.0000	427.0000	170.0000	310.0000	101.0000	336.0000	59.1000	267.0000
Mercury	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500
Nickel	4.2100	10.7000	5.6100	8.8000	4.7100	8.4400	2.9400	6.5400
Potassium	1070.0000	3710.0000	1350.0000	2750.0000	711.0000	2950.0000	366.0000	2540.0000
Selenium	< 0.2500	< 0.2500	< 0.2500	< 0.2500	< 0.2500	< 0.2500	< 0.2500	< 0.2500
Silver	< 0.5890	< 0.5890	< 0.5890	< 0.5890	< 0.5890	< 0.5890	< 0.5890	< 0.5890
Sodium	242.0000	294.0000	216.0000	290.0000	179.0000	282.0000	238.0000	482.0000
Thallium	< 6.6200	< 6.6200	< 6.6200	< 6.6200	< 6.6200	< 6.6200	< 6.6200	10.1000**
Vanadium	13.0000	19.4000	15.3000	16.9000	12.0000	18.6000	9.6900	17.4000
Zinc	25.4000	61.7000	29.9000	53.9000	18.6000	59.8000	14.7000	46.0000

Notes: ** - · · - is above the background concentration for the depth shown, < = ·· · 'tected at the value shown, NA = Not analyzed

TOOELE AD-NORTH AREA: SW... . 29 - DRUM STORAGE AREA
SOIL ANALYTICAL RESULTS FOR METALS

'ample ID	SB-29-021-DUP	SB-29-021	SB-29-022	SB-29-022	SB-29-023	SB-29-023	SB-29-024	SB-29-024
ab ID	OIL1*626	OIL1*590	OIL1*591	OIL1*592	OIL1*593	OIL1*594	OIL1*595	OIL1*596
'ate Sampled	06/14/92	06/14/92	06/13/92	06/13/92	06/13/92	06/13/92	06/13/92	06/13/92
'epth (ft)	0.000 ft	4.000 ft	0.000 ft	2.000 ft	0.000 ft	2.000 ft	0.000 ft	2.000 ft
'etals and Cyanide (ug/g)								
Aluminum	6810.0000	2070.0000	3950.0000	2410.0000	1160.0000	1280.0000	3800.0000	1640.0000
Antimony	< 7.1400	< 7.1400	< 7.1400	< 7.1400	< 7.1400	< 7.1400	< 7.1400	< 7.1400
Arsenic	9.5000	7.7100	9.5700	9.7600	25.0000	21.0000	10.2000	8.6100
Barium	255.0000**	74.0000	112.0000	53.1000	181.0000	46.1000	88.6000	57.6000
Beryllium	< 0.5000	< 0.5000	< 0.5000	< 0.5000	< 0.5000	< 0.5000	0.5820	< 0.5000
Cadmium	< 0.7000	< 0.7000	< 0.7000	< 0.7000	< 0.7000	< 0.7000	< 0.7000	< 0.7000
Calcium	150000.0000**	95000.0000**	48900.0000	66000.0000	100000.0000**	53000.0000	63000.0000	69000.0000**
Chromium	9.6500	12.5000	10.7000	10.9000	6.1500	8.4300	10.4000	8.9900
Cobalt	3.2400	< 1.4200	1.8600	< 1.4200	< 1.4200	< 1.4200	1.9400	< 1.4200
Copper	9.7700	3.0800	5.6700	4.1200	2.1400	3.3100	4.7400	2.0200
Cyanide	< 0.9200	< 0.9200	< 0.9200	< 0.9200	< 0.9200	< 0.9200	< 0.9200	< 0.9200
Iron	6690.0000	2900.0000	4870.0000	3960.0000	2500.0000	3460.0000	4750.0000	2810.0000
Lead	20.0000	7.5600	36.0000	7.5300	8.7100	8.9800	7.6500	5.0500
Magnesium	9970.0000	9680.0000	7840.0000	5360.0000	4680.0000	4020.0000	5990.0000	4560.0000
Manganese	255.0000	102.0000	141.0000	99.6000	91.9000	70.8000	137.0000	73.8000
Mercury	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500
Nickel	6.9400	3.7000	4.5400	3.8200	2.3400	3.1500	5.0800	4.6200
Potassium	2300.0000	623.0000	1140.0000	663.0000	254.0000	304.0000	1150.0000	422.0000
Selenium	< 0.2500	< 0.2500	< 0.2500	< 0.2500	< 0.2500	< 0.2500	< 0.2500	< 0.2500
Silver	< 0.5890	< 0.5890	< 0.5890	< 0.5890	< 0.5890	< 0.5890	< 0.5890	< 0.5890
Sodium	362.0000	230.0000	195.0000	184.0000	261.0000	145.0000	243.0000	200.0000
Thallium	10.9000**	< 6.6200	< 6.6200	< 6.6200	< 6.6200	< 6.6200	< 6.6200	< 6.6200
Vanadium	16.8000	12.9000	11.1000	14.2000	12.5000	12.2000	12.6000	8.8500
Zinc	43.6000	16.6000	26.9000	18.5000	13.0000	18.9000	20.3000	11.2000

'tes: ** = Value is above the background concentration for the depth shown, < = Not detected at the value shown, NA = Not analyzed

TOOELE AD-NORTH AREA: SWMU NO. 29 - DRUM STORAGE AREA
SOIL ANALYTICAL RESULTS FOR METALS

Sample ID	SB-29-025	SB-29-025	SB-29-026	SB-29-026	SB-29-027	SB-29-027	SB-29-028	SB-29-028
Lab ID	OIL1*597	OIL1*598	OIL1*599	OIL1*600	OIL1*601	OIL1*602	OIL1*603	OIL1*604
Date Sampled	06/13/92	06/13/92	06/14/92	06/14/92	06/14/92	06/14/92	06/15/92	06/15/92
Depth (ft)	0.000 ft	2.000 ft	0.000 ft	2.000 ft	0.000 ft	4.000 ft	0.000 ft	4.000 ft
Metals and Cyanide (ug/g)								
Aluminum	8530.0000	1930.0000	4000.0000	2120.0000	3400.0000	1470.0000	5750.0000	727.0000
Antimony	< 7.1400	< 7.1400	< 7.1400	< 7.1400	< 7.1400	< 7.1400	< 7.1400	< 7.1400
Arsenic	7.0800	8.3500	8.0200	11.8000	8.4200	7.2600	8.1200	7.9000
Barium	106.0000	45.4000	159.0000	85.5000	95.3000	76.7000	195.0000	27.0000
Beryllium	< 0.5000	< 0.5000	< 0.5000	< 0.5000	< 0.5000	< 0.5000	< 0.5000	< 0.5000
Cadmium	< 0.7000	< 0.7000	< 0.7000	0.8200	< 0.7000	< 0.7000	< 0.7000	< 0.7000
Calcium	41500.0000	65000.0000	100000.0000**	91000.0000**	68000.0000	70000.0000**	150000.0000**	37000.0000
Chromium	13.8000	6.9700	8.8000	23.4000**	9.0700	8.3900	9.7900	< 4.0500
Cobalt	3.3300	< 1.4200	2.0400	< 1.4200	< 1.4200	< 1.4200	2.4500	< 1.4200
Copper	9.7700	3.0400	5.8200	3.4000	4.4100	2.3700	7.5900	1.1500
Cyanide	< 0.9200	< 0.9200	< 0.9200	< 0.9200	< 0.9200	< 0.9200	55.0000**	4.7000**
Iron	8510.0000	2610.0000	4470.0000	4920.0000	3960.0000	2800.0000	5820.0000	1480.0000
Lead	13.0000	9.9000	12.0000	6.8000	5.5600	10.0000	19.0000	3.4600
Magnesium	5770.0000	4680.0000	6170.0000	5080.0000	4680.0000	4340.0000	8890.0000	2050.0000
Manganese	228.0000	72.4000	177.0000	107.0000	101.0000	61.2000	170.0000	31.1000
Mercury	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500
Nickel	8.3200	3.5900	3.8800	3.4800	3.6900	4.0300	5.1600	< 1.7100
Potassium	2530.0000	502.0000	1220.0000	622.0000	1030.0000	452.0000	1750.0000	209.0000
Selenium	< 0.2500	< 0.2500	< 0.2500	< 0.2500	< 0.2500	< 0.2500	< 0.2500	< 0.2500
Silver	< 0.5890	< 0.5890	< 0.5890	< 0.5890	< 0.5890	< 0.5890	< 1.8000	< 0.5890
Sodium	241.0000	155.0000	317.0000	238.0000	289.0000	188.0000	995.0000	178.0000
Thallium	< 6.6200	< 6.6200	< 6.6200	< 6.6200	< 6.6200	< 6.6200	< 6.6200	< 6.6200
Vanadium	16.2000	8.1700	12.7000	12.4000	11.0000	6.9500	14.8000	4.8000
Zinc	45.7000	16.6000	27.4000	18.0000	19.4000	12.5000	38.8000	< 8.0300

Notes: ** is above the background concentration for the depth shown, < ... ected at the value shown, NA = Not analyzed

TOOELE AD-NORTH AREA: SWMU ..J. 29 - DRUM STORAGE AREA
SOIL ANALYTICAL RESULTS FOR METALS

Sample ID	SB-29-028-DUP	SB-29-029	SB-29-029	SB-29-030	SB-29-030	SB-29-031	SB-29-031-DUP	SB-29-031
Lab ID	OIL1*628	OIL1*605	OIL1*606	OIL1*607	OIL1*608	OIL1*609	OIL1*793	OIL1*610
Date Sampled	06/15/92	06/15/92	06/15/92	06/17/92	06/17/92	06/17/92	06/17/92	06/17/92
Depth (ft)	4.000 ft	0.000 ft	4.000 ft	0.000 ft	4.000 ft	0.000 ft	0.000 ft	4.000 ft
Metals and Cyanide (ug/g)								
Aluminum	379.0000	11500.0000	4640.0000	5960.0000	2750.0000	11000.0000	7730.0000	4360.0000
Antimony	< 7.1400	< 7.1400	< 7.1400	< 7.1400	< 7.1400	< 7.1400	< 7.1400	< 7.1400
Arsenic	7.1900	7.0400	7.1000	12.0000	8.3900	7.6800	7.3800	5.3700
Barium	25.0000	142.0000	111.0000	126.0000	88.7000	158.0000	158.0000	76.0000
Beryllium	< 0.5000	< 0.5000	< 0.5000	< 0.5000	< 0.5000	0.6410	< 0.5000	< 0.5000
Cadmium	< 0.7000	< 0.7000	< 0.7000	< 0.7000	< 0.7000	< 0.7000	< 0.7000	< 0.7000
Calcium	33300.0000	68000.0000	130000.0000**	50100.0000	82000.0000**	60000.0000	38100.0000	54000.0000
Chromium	< 4.0500	14.6000	11.0000	9.6200	10.9000	12.9000	9.7200	10.3000
Cobalt	< 1.4200	4.2900	2.9100	2.6900	< 1.4200	3.9900	3.5200	2.4800
Copper	< 0.9650	11.2000	6.6100	11.1000	4.2500	10.5000	10.5000	4.8800
Cyanide	3.1300**	< 0.9200	< 0.9200	< 0.9200	< 0.9200	< 0.9200	< 0.9200	< 0.9200
Iron	877.0000	10200.0000	4780.0000	6590.0000	3500.0000	10000.0000	8200.0000	5150.0000
Lead	1.5200	13.0000	7.2200	26.3000	7.0700	20.0000	20.0000	7.2000
Magnesium	3210.0000	7940.0000	8140.0000	6650.0000	5660.0000	9410.0000	8750.0000	7690.0000
Manganese	21.6000	263.0000	166.0000	305.0000	114.0000	374.0000	395.0000	153.0000
Mercury	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500
Nickel	< 1.7100	10.0000	5.9200	6.7200	4.3200	10.2000	8.7400	6.4200
Potassium	< 100.0000	3520.0000	1420.0000	1960.0000	800.0000	3630.0000	2840.0000	1410.0000
Selenium	< 0.2500	< 0.2500	< 0.2500	< 0.2500	< 0.2500	< 0.2500	< 0.2500	< 0.2500
Silver	< 0.5890	< 0.5890	< 0.5890	< 0.5890	< 0.5890	< 0.5890	< 0.5890	< 0.5890
Sodium	< 100.0000	295.0000	347.0000	267.0000	255.0000	385.0000	327.0000	236.0000
Thallium	< 6.6200	< 6.6200	9.1800	< 6.6200	< 6.6200	< 6.6200	10.2000**	< 6.6200
Vanadium	4.1600	22.5000	14.3000	12.2000	9.1400	19.3000	14.7000	11.1000
Zinc	< 8.0300	44.6000	32.6000	54.6000	20.6000	57.6000	51.8000	30.7000

Notes: ** = Value is above the background concentration for the depth shown, < = Not detected at the value shown, NA = Not analyzed

TOOELE AD-NORTH AREA: SWMU NO. 29 - DRUM STORAGE AREA
SOIL ANALYTICAL RESULTS FOR METALS

Sample ID	SB-29-032	SB-29-032	SB-29-033	SB-29-033	SB-29-034	SB-29-034	SB-29-035	SB-29-035
Lab ID	OIL1*611	OIL1*612	OIL1*613	OIL1*614	OIL1*615	OIL1*616	OIL1*617	OIL1*618
Date Sampled	06/17/92	06/17/92	06/17/92	06/17/92	06/17/92	06/17/92	06/17/92	06/17/92
Depth (ft)	0.000 ft	4.000 ft	0.000 ft	3.000 ft	0.000 ft	4.000 ft	0.000 ft	4.000 ft
Metals and Cyanide (ug/g)								
Aluminum	5870.0000	2030.0000	5240.0000	2230.0000	4110.0000	2950.0000	4590.0000	2190.0000
Antimony	< 7.1400	< 7.1400	< 7.1400	< 7.1400	< 7.1400	< 7.1400	< 7.1400	< 7.1400
Arsenic	15.0000	7.2300	24.0000	7.7500	15.0000	8.6900	22.0000	6.4800
Barium	89.1000	104.0000	75.2000	41.8000	56.0000	56.2000	72.6000	90.8000
Beryllium	< 0.5000	< 0.5000	< 0.5000	< 0.5000	< 0.5000	< 0.5000	< 0.5000	< 0.5000
Cadmium	0.9200**	< 0.7000	< 0.7000	< 0.7000	3.1300**	< 0.7000	1.8500**	< 0.7000
Calcium	60000.0000	61000.0000	40900.0000	95000.0000**	27400.0000	81000.0000**	47200.0000	79000.0000*
Chromium	16.3000	41.6000**	32.0000**	12.5000	15.2000	10.7000	19.1000	10.8000
Cobalt	3.2100	< 1.4200	2.4500	< 1.4200	2.3600	< 1.4200	2.7500	< 1.4200
Copper	16.8000	3.5000	16.4000	3.9600	15.6000	4.2700	23.4000	3.2200
Cyanide	< 0.9200	< 0.9200	< 0.9200	< 0.9200	< 0.9200	< 0.9200	< 0.9200	< 0.9200
Iron	7650.0000	6520.0000	5900.0000	2950.0000	6090.0000	3690.0000	7410.0000	3230.0000
Lead	86.4000**	8.6700	222.0000**	17.0000	103.0000**	14.0000	147.0000**	18.0000
Magnesium	6200.0000	5990.0000	4050.0000	7320.0000	4000.0000	4460.0000	11000.0000	7490.0000
Manganese	227.0000	163.0000	219.0000	89.7000	197.0000	95.3000	283.0000	86.6000
Mercury	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500
Nickel	7.7000	6.2800	6.3800	5.0600	6.0000	3.6600	8.0400	3.5100
Potassium	1700.0000	603.0000	1400.0000	652.0000	1160.0000	765.0000	1380.0000	559.0000
Selenium	< 0.2500	< 0.2500	< 0.2500	< 0.2500	< 0.2500	< 0.2500	< 0.2500	< 0.2500
Silver	< 0.5890	< 0.5890	< 0.5890	< 0.5890	< 0.5890	< 0.5890	< 0.5890	< 0.5890
Sodium	531.0000	284.0000	689.0000	306.0000	392.0000	337.0000	543.0000	330.0000
Thallium	< 6.6200	< 6.6200	< 6.6200	< 6.6200	< 6.6200	< 6.6200	< 6.6200	< 6.6200
Vanadium	14.2000	10.1000	12.6000	9.9000	10.6000	12.5000	12.2000	9.0200
Zinc	87.3000	20.1000	99.4000	19.3000	93.5000	29.3000	164.0000**	18.2000

Note · is above the background concentration for the depth shown, tected at the value shown, NA = Not analyzed

TOOELE AD-NORTH AREA: SWMU . 29 - DRUM STORAGE AREA
SOIL ANALYTICAL RESULTS FOR METALS

ample ID	SB-29-036	SB-29-036	SB-29-037	SB-29-037
ab ID	01L1*619	01L1*620	01L1*621	01L1*622
ate Sampled	06/17/92	06/17/92	06/17/92	06/17/92
epth (ft)	0.000 ft	3.000 ft	0.000 ft	4.000 ft
etals and Cyanide (ug/g)				
Aluminum	5870.0000	2420.0000	5770.0000	2730.0000
Antimony	< 7.1400	< 7.1400	< 7.1400	< 7.1400
Arsenic	17.0000	6.1900	12.7000	8.1900
Barium	85.0000	43.3000	74.6000	38.1000
Beryllium	< 0.5000	< 0.5000	< 0.5000	< 0.5000
Cadmium	1.1700**	< 0.7000	< 0.7000	< 0.7000
Calcium	41700.0000	47800.0000	32600.0000	100000.0000**
Chromium	16.2000	11.4000	13.1000	15.0000
Cobalt	2.5700	< 1.4200	2.7600	2.0400
Copper	21.5000	4.0900	14.3000	3.4100
Cyanide	< 0.9200	< 0.9200	< 0.9200	< 0.9200
Iron	7310.0000	3280.0000	6980.0000	3820.0000
Lead	101.0000**	7.4100	80.0000**	10.6000
Magnesium	5630.0000	4520.0000	4350.0000	7740.0000
Manganese	230.0000	65.1000	243.0000	93.1000
Mercury	< 0.0500	< 0.0500	< 0.0500	< 0.0500
Nickel	7.8200	3.5700	7.9000	4.5900
Potassium	1770.0000	651.0000	1660.0000	845.0000
Selenium	< 0.2500	< 0.2500	< 0.2500	< 0.2500
Silver	< 0.5890	< 0.5890	< 0.5890	< 0.5890
Sodium	790.0000	375.0000	409.0000	311.0000
Thallium	< 6.6200	< 6.6200	< 6.6200	< 6.6200
Vanadium	13.0000	8.9600	13.7000	13.1000
Zinc	189.0000**	19.7000	134.0000**	21.7000

tes: ** = Value is above the background concentration for the depth shown, < = Not detected at the value shown, NA = Not analyzed

TOOELE AD-NORTH AREA: SWMU NO. 29 - DRUM STORAGE AREA
SOIL ANALYTICAL RESULTS FOR ORGANIC COMPOUNDS

Sample ID	SB-29-001	SB-29-002	SB-29-003	SB-29-003	SB-29-004	SB-29-005	SB-29-006	SB-29-006
Lab ID	OIL1*549	OIL1*551	OIL1*553	OIL1*554	OIL1*555	OIL1*557	OIL1*559	OIL1*560
Date Sampled	0'/11/92	06/11/92	06/12/92	06/12/92	06/11/92	06/11/92	06/15/92	06/15/92
Depth (ft)	0.000 ft	0.000 ft	0.000 ft	3.000 ft	0.000 ft	0.000 ft	0.000 ft	4.000 ft
Volatile Organic Compounds (ug/g)								
Hexane	NA	NA	NA	0.0040**	NA	NA	NA	NA
Toluene	NA	< 0.0008	NA	< 0.0008	< 0.0008	< 0.0008	NA	< 0.0008
Semivolatile Organic Compounds (ug/g)								
Acenaphthene	< 0.0360	< 0.0360	< 0.0360	< 0.0360	< 0.2000	< 0.0360	< 0.0360	< 0.0360
Anthracene	< 0.0330	< 0.0330	< 0.0330	< 0.0330	< 0.2000	< 0.0330	< 0.0330	< 0.0330
Benzo[a]anthracene	< 0.1700	< 0.1700	< 0.1700	< 0.1700	< 0.8000	< 0.1700	< 0.1700	< 0.1700
Benzo[a]pyrene	< 0.2500	< 0.2500	< 0.2500	< 0.2500	< 1.0000	< 0.2500	< 0.2500	< 0.2500
Benzo[b]fluoranthene	< 0.2100	< 0.2100	< 0.2100	< 0.2100	< 1.0000	< 0.2100	< 0.2100	< 0.2100
Benzo[e]pyrine (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
Benzo[k]fluoranthene	< 0.0660	< 0.0660	< 0.0660	< 0.0660	< 0.3000	< 0.0660	< 0.0660	< 0.0660
Bis (2-ethylhexyl) phthalate	< 0.6200	< 0.6200	< 0.6200	< 0.6200	< 3.0000	< 0.6200	< 0.6200	< 0.6200
Chrysene	< 0.1200	< 0.1200	< 0.1200	< 0.1200	< 0.6000	< 0.1200	< 0.1200	< 0.1200
Fluoranthene	< 0.0680	< 0.0680	< 0.0680	< 0.0680	< 0.3000	< 0.0680	< 0.0680	< 0.0680
Fluorene	< 0.0330	< 0.0330	< 0.0330	< 0.0330	< 0.2000	< 0.0330	< 0.0330	< 0.0330
Octadecanoic acid, butyl ester (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	< 0.0330	< 0.0330	< 0.0330	< 0.0330	< 0.2000	< 0.0330	< 0.0330	< 0.0330
Pyrene	< 0.0330	< 0.0330	< 0.0330	< 0.0330	< 0.2000	0.0830**	< 0.0330	< 0.0330
Pesticides (ug/g)								
Endrin	< 0.4500	< 0.4500	< 0.0066	< 0.4500	< 2.0000	< 0.4500	< 0.0066	< 0.4500
Isodrin	NA	NA	< 0.0046	< 0.0046	NA	NA	< 0.0046	< 0.0046
p,p-DDD	< 0.2700	< 0.2700	< 0.0083	< 0.2700	< 2.0000	< 0.2700	< 0.0083	< 0.2700
p,p-DDE	< 0.3100	< 0.3100	< 0.0077	< 0.3100	< 2.0000	< 0.3100	< 0.0077	< 0.3100
p,p-DDT	< 0.3100	< 0.3100	< 0.0071	< 0.3100	< 2.0000	< 0.3100	0.0092**	< 0.3[illegible]
Herbicides (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA
Total Petroleum Hydrocarbons (ug/g)								
Total petroleum hydrocarbons	NA	51.4000**	NA	< 28.3000	59.3000**	51.1000**	NA	< 28.3000
Explosives (ug/g)	ND	ND	ND	ND	ND	ND	ND	ND
Dioxins/Furans (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA

Notes: ** [illegible]te was detected at the concentration shown < = Not detected at [illegible] shown, NA = Not analyzed

TOOELE AD-NORTH AREA: SWMU NO. 29 - DRUM STORAGE AREA
SOIL ANALYTICAL RESULTS FOR ORGANIC COMPOUNDS

Sample ID	SB-29-007	SB-29-007	SB-29-007-DUP	SB-29-008	SB-29-008	SB-29-009	SB-29-009	SB-29-010
Lab ID	OIL1*561	OIL1*562	OIL1*627	OIL1*563	OIL1*564	OIL1*565	OIL1*566	OIL1*567
Date Sampled	06/15/92	06/15/92	06/15/92	06/14/92	06/14/92	06/14/92	06/14/92	06/14/92
Depth (ft)	0.000 ft	4.000 ft	4.000 ft	0.000 ft	4.000 ft	0.000 ft	4.000 ft	0.000 ft
Volatile Organic Compounds (ug/g)								
Hexane	NA	NA	NA	NA	NA	NA	NA	NA
Toluene	< 0.0008	< 0.0008	< 0.0008	NA	< 0.0008	< 0.0008	< 0.0008	< 0.0008
Semivolatile Organic Compounds (ug/g)								
Acenaphthene	< 0.0360	< 0.0360	< 0.0360	< 0.0360	< 0.0360	< 0.0360	< 0.0360	< 0.0360
Anthracene	< 0.0330	< 0.0330	< 0.0330	< 0.0330	< 0.0330	< 0.0330	< 0.0330	< 0.0330
Benzo[a]anthracene	< 0.1700	< 0.1700	< 0.1700	< 0.1700	< 0.1700	< 0.1700	< 0.1700	< 0.1700
Benzo[a]pyrene	< 0.2500	< 0.2500	< 0.2500	< 0.2500	< 0.2500	< 0.2500	< 0.2500	< 0.2500
Benzo[b]fluoranthene	< 0.2100	< 0.2100	< 0.2100	< 0.2100	< 0.2100	< 0.2100	< 0.2100	< 0.2100
Benzo[e]pyrine (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
Benzo[k]fluoranthene	< 0.0660	< 0.0660	< 0.0660	< 0.0660	< 0.0660	< 0.0660	< 0.0660	< 0.0660
Bis (2-ethylhexyl) phthalate	< 0.6200	< 0.6200	< 0.6200	< 0.6200	0.8930**	< 0.6200	< 0.6200	< 0.6200
Chrysene	< 0.1200	< 0.1200	< 0.1200	< 0.1200	< 0.1200	< 0.1200	< 0.1200	< 0.1200
Fluoranthene	< 0.0680	< 0.0680	< 0.0680	0.1860**	< 0.0680	< 0.0680	< 0.0680	< 0.0680
Fluorene	< 0.0330	< 0.0330	< 0.0330	< 0.0330	< 0.0330	< 0.0330	< 0.0330	< 0.0330
Octadecanoic acid, butyl ester (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	< 0.0330	< 0.0330	< 0.0330	< 0.0330	< 0.0330	< 0.0330	< 0.0330	< 0.0330
Pyrene	< 0.0330	< 0.0330	< 0.0330	0.1900**	< 0.0330	< 0.0330	< 0.0330	< 0.0330
Pesticides (ug/g)								
Endrin	< 0.0066	< 0.4500	< 0.0066	< 0.0066	< 0.4500	< 0.0066	< 0.0066	< 0.0066
Isodrin	< 0.0046	< 0.0046	< 0.0046	< 0.0046	< 0.0046	< 0.0046	< 0.0046	< 0.0046
p,p-DDD	< 0.0083	< 0.2700	< 0.0083	< 0.0083	< 0.2700	< 0.0083	< 0.0083	< 0.0083
p,p-DDE	< 0.0077	< 0.3100	< 0.0077	< 0.0077	< 0.3100	< 0.0077	< 0.0077	< 0.0077
p,p-DDT	< 0.0071	< 0.3100	< 0.0071	< 0.0071	< 0.3100	0.0198**	< 0.0071	< 0.0071
Herbicides (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA
Total Petroleum Hydrocarbons (ug/g)								
Total petroleum hydrocarbons	32.3000**	< 28.5000	< 27.5000	NA	31.6000**	945.0000**	< 28.5000	< 28.3000
Explosives (ug/g)	ND	ND	ND	ND	ND	ND	ND	ND
Dioxins/Furans (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA

Notes: ** = /te was detected at the concentration shown < = Not detected at the shown, NA = Not analyzed

TOOELE AD-NORTH AREA: SWMU NO. 29 - DRUM STORAGE AREA
SOIL ANALYTICAL RESULTS FOR ORGANIC COMPOUNDS

Sample ID	SB-29-010	SB-29-010-DUP	SB-29-011	SB-29-012	SB-29-012	SB-29-013	SB-29-013	SB-29-014
Lab ID	OIL1*568	OIL1*625	OIL1*570	OIL1*571	OIL1*572	OIL1*573	OIL1*574	OIL1*575
Date Sampled	06/14/92	06/14/92	06/12/92	06/12/92	06/12/92	06/12/92	06/12/92	06/12/92
Depth (ft)	4.000 ft	4.000 ft	3.000 ft	0.500 ft	3.000 ft	0.000 ft	3.000 ft	0.000 ft
Volatile Organic Compounds (ug/g)								
Hexane	NA	NA	0.0083**	NA	0.0052**	NA	0.0110**	NA
Toluene	< 0.0008	< 0.0008	< 0.0008	NA	< 0.0008	NA	< 0.0008	NA
Semivolatile Organic Compounds (ug/g)								
Acenaphthene	< 0.0360	< 0.0360	< 0.0360	< 0.0360	< 0.0360	< 0.0360	< 0.0360	< 0.0360
Anthracene	< 0.0330	< 0.0330	< 0.0330	< 0.0330	< 0.0330	< 0.0330	< 0.0330	< 0.0330
Benzo[a]anthracene	< 0.1700	< 0.1700	< 0.1700	< 0.1700	< 0.1700	< 0.1700	< 0.1700	< 0.1700
Benzo[a]pyrene	< 0.2500	< 0.2500	< 0.2500	< 0.2500	< 0.2500	< 0.2500	< 0.2500	< 0.2500
Benzo[b]fluoranthene	< 0.2100	< 0.2100	< 0.2100	< 0.2100	< 0.2100	< 0.2100	< 0.2100	< 0.2100
Benzo[e]pyrine (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
Benzo[k]fluoranthene	< 0.0660	< 0.0660	< 0.0660	< 0.0660	< 0.0660	< 0.0660	< 0.0660	< 0.0660
Bis (2-ethylhexyl) phthalate	< 0.6200	< 0.6200	< 0.6200	< 0.6200	< 0.6200	< 0.6200	< 0.6200	< 0.6200
Chrysene	< 0.1200	< 0.1200	< 0.1200	< 0.1200	< 0.1200	< 0.1200	< 0.1200	< 0.1200
Fluoranthene	< 0.0680	< 0.0680	< 0.0680	< 0.0680	< 0.0680	< 0.0680	< 0.0680	< 0.0680
Fluorene	< 0.0330	< 0.0330	< 0.0330	< 0.0330	< 0.0330	< 0.0330	< 0.0330	< 0.0330
Octadecanoic acid, butyl ester (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	< 0.0330	< 0.0330	< 0.0330	< 0.0330	< 0.0330	< 0.0330	< 0.0330	< 0.0330
Pyrene	< 0.0330	< 0.0330	< 0.0330	0.1400**	< 0.0330	0.0970**	< 0.0330	< 0.0330
Pesticides (ug/g)								
Endrin	< 0.4500	< 0.0066	< 0.4500	< 0.0066	< 0.4500	< 0.0066	< 0.0066	< 0.0066
Isodrin	< 0.0046	< 0.0046	< 0.0046	< 0.0046	< 0.0046	< 0.0046	< 0.0046	< 0.0046
p,p-DDD	< 0.2700	< 0.0083	< 0.2700	< 0.0083	< 0.2700	< 0.0083	< 0.0083	< 0.0083
p,p-DDE	< 0.3100	< 0.0077	< 0.3100	< 0.0077	< 0.3100	< 0.0077	< 0.0077	< 0.0077
p,p-DDT	< 0.3100	< 0.0071	< 0.3100	< 0.0071	< 0.3100	< 0.0071	< 0.0071	< 0.0071
Herbicides (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA
Total Petroleum Hydrocarbons (ug/g)								
Total petroleum hydrocarbons	< 28.7000	< 27.5000	< 28.7000	NA	49.8000**	NA	< 28.5000	NA
Explosives (ug/g)	ND	ND	ND	ND	ND	ND	ND	ND
Dioxins/Furans (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA

Notes: ** = te was detected at the concentration shown < = Not detected at tł ? shown, NA = Not analyzed

TOOELE AD-NORTH AREA: S..J NO. 29 - DRUM STORAGE AREA
SOIL ANALYTICAL RESULTS FOR ORGANIC COMPOUNDS

Sample ID	SB-29-014	SB-29-014-DUP	SB-29-015	SB-29-015-DUP	SB-29-015	SB-29-016	SB-29-016	SB-29-017
Lab ID	OIL1*576	OIL1*624	OIL1*577	OIL1*623	OIL1*578	OIL1*579	OIL1*580	OIL1*581
Date Sampled	06/12/92	06/12/92	06/12/92	06/12/92	06/12/92	06/13/92	06/13/92	06/12/92
Depth (ft)	3.000 ft	3.000 ft	0.000 ft	0.000 ft	3.000 ft	0.000 ft	2.000 ft	0.000 ft
Volatile Organic Compounds (ug/g)								
Hexane	0.0062**	0.0052**	NA	0.0088**	0.0076**	NA	NA	NA
Toluene	< 0.0008	< 0.0008	< 0.0008	< 0.0008	< 0.0008	NA	< 0.0008	NA
Semivolatile Organic Compounds (ug/g)								
Acenaphthene	< 0.0360	< 0.0360	< 0.4000	< 0.7000	< 0.1800	< 0.9000	< 0.7200	< 2.0000
Anthracene	< 0.0330	< 0.0330	< 0.3000	< 0.7000	< 0.1650	< 0.8250	< 0.6600	< 2.0000
Benzo[a]anthracene	< 0.1700	< 0.1700	< 2.0000	< 3.0000	< 0.8500	< 4.2500	< 3.4000	< 8.0000
Benzo[a]pyrene	< 0.2500	< 0.2500	< 2.0000	< 5.0000	< 1.2500	< 6.2500	< 5.0000	< 10.0000
Benzo[b]fluoranthene	< 0.2100	< 0.2100	< 2.0000	< 4.0000	< 1.0500	< 5.2500	< 4.2000	< 10.0000
Benzo[e]pyrine (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
Benzo[k]fluoranthene	< 0.0660	< 0.0660	< 0.7000	< 1.0000	< 0.3300	< 1.6500	< 1.3200	< 3.0000
Bis (2-ethylhexyl) phthalate	< 0.6200	< 0.6200	< 6.0000	< 10.0000	< 3.1000	< 15.5000	< 12.4000	< 30.0000
Chrysene	< 0.1200	< 0.1200	< 1.0000	< 2.0000	< 0.6000	< 3.0000	< 2.4000	< 6.0000
Fluoranthene	< 0.0680	< 0.0680	< 0.7000	< 1.0000	< 0.3400	< 1.7000	< 1.3600	< 3.0000
Fluorene	< 0.0330	< 0.0330	< 0.3000	< 0.7000	< 0.1650	< 0.8250	< 0.6600	< 2.0000
Octadecanoic acid, butyl ester (TIC)	0.3110**	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	< 0.0330	< 0.0330	< 0.3000	< 0.7000	< 0.1650	< 0.8250	< 0.6600	< 2.0000
Pyrene	< 0.0330	< 0.0330	< 0.3000	< 0.7000	< 0.1650	< 0.8250	< 0.6600	< 2.0000
Pesticides (ug/g)								
Endrin	< 0.4500	< 0.4500	< 0.0066	< 0.0066	< 2.5000	< 0.0066	< 0.0066	< 0.0066
Isodrin	< 0.0046	< 0.0046	< 0.0046	< 0.0046	< 0.0046	< 0.0046	< 0.0046	< 0.0046
p,p-DDD	< 0.2700	< 0.2700	< 0.0083	< 0.0083	< 1.5000	< 0.0083	< 0.0083	< 0.0083
p,p-DDE	< 0.3100	< 0.3100	< 0.0077	< 0.0077	< 1.5000	< 0.0077	< 0.0077	< 0.0077
p,p-DDT	< 0.3100	< 0.3100	< 0.0071	0.0100**	< 1.5000	< 0.0071	< 0.0071	< 0.0071
Herbicides (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA
Total Petroleum Hydrocarbons (ug/g)								
Total petroleum hydrocarbons	< 28.3000	NA	176.0000**	238.0000**	31.9000**	NA	852.0000**	NA
Explosives (ug/g)	ND	ND	ND	ND	ND	ND	ND	ND
Dioxins/Furans (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA

Notes: ** = A e was detected at the concentration shown < = Not detected at the v shown, NA = Not analyzed

TOOELE AD-NORTH AREA: SWMU NO. 29 - DRUM STORAGE AREA
SOIL ANALYTICAL RESULTS FOR ORGANIC COMPOUNDS

Sample ID	SB-29-017	SB-29-018	SB-29-018	SB-29-019	SB-29-019	SB-29-020	SB-29-020	SB-29-021
Lab ID	OIL1*582	OIL1*583	OIL1*584	OIL1*585	OIL1*586	OIL1*587	OIL1*588	OIL1*589
Date Sampled	06/12/92	06/13/92	06/13/92	06/13/92	06/13/92	06/13/92	06/13/92	06/14/92
Depth (ft)	3.000 ft	0.000 ft	2.000 ft	0.000 ft	2.000 ft	0.000 ft	2.000 ft	0.000 ft
Volatile Organic Compounds (ug/g)								
Hexane	0.0044**	NA	NA	NA	NA	NA	NA	NA
Toluene	< 0.0008	NA	< 0.0008	< 0.0008	< 0.0008	NA	< 0.0008	NA
Semivolatile Organic Compounds (ug/g)								
Acenaphthene	< 0.4000	< 0.3600	< 0.3600	< 0.0360	< 0.0360	< 0.9000	< 1.8000	< 0.7200
Anthracene	< 0.3000	< 0.3300	< 0.3300	< 0.0330	< 0.0330	< 0.8250	< 1.6500	< 0.6600
Benzo[a]anthracene	< 2.0000	< 1.7000	< 1.7000	< 0.1700	< 0.1700	< 4.2500	< 8.0000	< 3.4000
Benzo[a]pyrene	< ?.0000	< 2.0000	< 2.0000	< 0.2500	< 0.2500	< 6.2500	< 12.5000	< 5.0000
Benzo[b]fluoranthene	< 2.0000	< 2.1000	< 2.1000	< 0.2100	< 0.2100	< 5.2500	< 10.5000	< 4.2000
Benzo[e]pyrine (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
Benzo[k]fluoranthene	< 0.7000	< 0.6600	< 0.6600	< 0.0660	< 0.0660	< 1.6500	< 3.3000	< 1.3200
Bis (2-ethylhexyl) phthalate	< 6.0000	< 6.2000	< 6.2000	< 0.6200	< 0.6200	< 15.5000	< 31.0000	< 12.4000
Chrysene	< 1.0000	< 1.2000	< 1.2000	< 0.1200	< 0.1200	< 3.0000	< 6.0000	< 2.4000
Fluoranthene	< 0.7000	< 0.6800	< 0.6800	< 0.0680	< 0.0680	< 1.7000	< 3.4000	< 1.3600
Fluorene	< 0.3000	< 0.3300	< 0.3300	< 0.0330	< 0.0330	< 0.8250	< 1.6500	< 0.6600
Octadecanoic acid, butyl ester (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	< 0.3000	< 0.3300	< 0.3300	< 0.0330	< 0.0330	< 0.8250	< 1.6500	< 0.6600
Pyrene	< 0.3000	< 0.3300	< 0.3300	< 0.0330	< 0.0330	2.6700**	3.7400**	< 0.6600
Pesticides (ug/g)								
Endrin	< 0.0066	< 0.0066	< 0.0066	< 0.0066	< 0.0066	< 0.0066	0.0158**	< 0.0066
Isodrin	< 0.0046	< 0.0046	< 0.0046	< 0.0046	< 0.0046	< 0.0046	0.0085**	< 0.0046
p,p-DDD	< 0.0083	< 0.0083	< 0.0083	< 0.0083	< 0.0083	< 0.0083	< 0.0083	< 0.0083
p,p-DDE	< 0.0077	< 0.0077	< 0.0077	< 0.0077	< 0.0077	< 0.0077	< 0.0077	< 0.0077
p,p-DDT	< 0.0071	< 0.0071	< 0.0071	< 0.0071	< 0.0071	< 0.0071	< 0.0071	< 0.0071
Herbicides (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA
Total Petroleum Hydrocarbons (ug/g)								
Total petroleum hydrocarbons	199.0000**	NA	104.0000**	< 28.7000	35.9000**	NA	1390.0000**	NA
Explosives (ug/g)	ND	ND	ND	ND	ND	ND	ND	ND
Dioxins/Furans (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA

Notes: ** e was detected at the concentration shown < = Not detected at th shown, NA = Not analyzed

TOOELE AD-NORTH ARL.   J NO. 29 - DRUM STORAGE AREA
SOIL ANALYTICAL RESULTS FOR ORGANIC COMPOUNDS

Sample ID	SB-29-021-DUP	SB-29-021	SB-29-022	SB-29-022	SB-29-023	SB-29-023	SB-29-024	SB-29-024
Lab ID	OIL1*626	OIL1*590	OIL1*591	OIL1*592	OIL1*593	OIL1*594	OIL1*595	OIL1*596
Date Sampled	06/14/92	06/14/92	06/13/92	06/13/92	06/13/92	06/13/92	06/13/92	06/13/92
Depth (ft)	0.000 ft	4.000 ft	0.000 ft	2.000 ft	0.000 ft	2.000 ft	0.000 ft	2.000 ft
Volatile Organic Compounds (ug/g)								
Hexane	NA	NA	NA	NA	NA	NA	NA	NA
Toluene	NA	< 0.0008	NA	< 0.0008	< 0.0008	< 0.0008	NA	< 0.0008
Semivolatile Organic Compounds (ug/g)								
Acenaphthene	NA	< 0.9000	< 1.8000	< 0.3600	< 0.3600	< 1.8000	NA	< 0.3600
Anthracene	NA	< 0.8250	< 1.6500	< 0.3300	< 0.3300	< 1.6500	NA	< 0.3300
Benzo[a]anthracene	NA	< 4.2500	< 8.0000	< 1.7000	< 1.7000	< 8.0000	NA	< 1.7000
Benzo[a]pyrene	NA	< 6.2500	< 12.5000	< 2.0000	< 2.0000	< 12.5000	NA	< 2.0000
Benzo[b]fluoranthene	NA	< 5.2500	< 10.5000	< 2.1000	< 2.1000	< 10.5000	NA	< 2.1000
Benzo[e]pyrine (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
Benzo[k]fluoranthene	NA	< 1.6500	< 3.3000	< 0.6600	< 0.6600	< 3.3000	NA	< 0.6600
Bis (2-ethylhexyl) phthalate	NA	< 15.5000	< 31.0000	< 6.2000	< 6.2000	< 31.0000	NA	< 6.2000
Chrysene	NA	< 3.0000	< 6.0000	< 1.2000	< 1.2000	< 6.0000	NA	< 1.2000
Fluoranthene	NA	< 1.7000	< 3.4000	< 0.6800	< 0.6800	< 3.4000	NA	< 0.6800
Fluorene	NA	< 0.8250	< 1.6500	< 0.3300	< 0.3300	< 1.6500	NA	< 0.3300
Octadecanoic acid, butyl ester (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	NA	< 0.8250	< 1.6500	< 0.3300	< 0.3300	< 1.6500	NA	< 0.3300
Pyrene	NA	3.0900**	< 1.6500	< 0.3300	< 0.3300	< 1.6500	NA	< 0.3300
Pesticides (ug/g)								
Endrin	< 0.0066	< 0.0066	< 0.0066	< 0.0066	< 0.0066	< 0.0066	< 0.0066	< 0.0066
Isodrin	< 0.0046	< 0.0046	< 0.0046	< 0.0046	< 0.0046	< 0.0046	< 0.0046	< 0.0046
p,p-DDD	< 0.0083	0.0424**	< 0.0083	< 0.0083	< 0.0083	< 0.0083	< 0.0083	< 0.0083
p,p-DDE	< 0.0077	0.0140**	< 0.0077	< 0.0077	< 0.0077	< 0.0077	< 0.0077	< 0.0077
p,p-DDT	< 0.0071	0.0097**	< 0.0071	< 0.0071	< 0.0071	< 0.0071	< 0.0071	< 0.0071
Herbicides (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA
Total Petroleum Hydrocarbons (ug/g)								
Total petroleum hydrocarbons	NA	1480.0000**	NA	844.0000**	207.0000**	729.0000**	NA	144.0000**
Explosives (ug/g)	ND	ND	ND	ND	ND	ND	NA	ND
Dioxins/Furans (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA

Notes: ** = 'te was detected at the concentration shown < = Not detected at the ? shown, NA = Not analyzed

TOOELE AD-NORTH AREA: SWMU NO. 29 - DRUM STORAGE AREA
SOIL ANALYTICAL RESULTS FOR ORGANIC COMPOUNDS

Sample ID	SB-29-025	SB-29-025	SB-29-026	SB-29-026	SB-29-027	SB-29-027	SB-29-028	SB-29-028
Lab ID	OIL1*597	OIL1*598	OIL1*599	OIL1*600	OIL1*601	OIL1*602	OIL1*603	OIL1*604
Date Sampled	06/13/92	06/13/92	06/14/92	06/14/92	06/14/92	06/14/92	06/15/92	06/15/92
Depth (ft)	0.000 ft	2.000 ft	0.000 ft	2.000 ft	0.000 ft	4.000 ft	0.000 ft	4.000 ft
Volatile Organic Compounds (ug/g)								
Hexane	NA	NA	NA	NA	NA	NA	NA	NA
Toluene	< 0.0008	< 0.0008	NA	< 0.0008	NA	< 0.0008	< 0.0008	< 0.0008
Semivolatile Organic Compounds (ug/g)								
Acenaphthene	< 0.3600	< 0.3600	NA	< 0.9000	NA	< 0.3600	< 0.0360	< 0.0360
Anthracene	< 0.3300	< 0.3300	NA	< 0.8250	NA	< 0.3300	< 0.0330	< 0.0330
Benzo[a]anthracene	< 1.7000	< 1.7000	NA	< 4.2500	NA	< 1.7000	< 0.1700	< 0.1700
Benzo[a]pyrene	< 2.0000	< 2.0000	NA	< 6.2500	NA	< 2.5000	< 0.2500	< 0.2500
Benzo[b]fluoranthene	< 2.1000	< 2.1000	NA	< 5.2500	NA	< 2.1000	< 0.2100	< 0.2100
Benzo[e]pyrine (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
Benzo[k]fluoranthene	< 0.6600	< 0.6600	NA	< 1.6500	NA	< 0.6600	< 0.0660	< 0.0660
Bis (2-ethylhexyl) phthalate	< 6.2000	< 6.2000	NA	< 15.5000	NA	< 6.2000	< 0.6200	3.7000**
Chrysene	< 1.2000	< 1.2000	NA	< 3.0000	NA	< 1.2000	< 0.1200	< 0.1200
Fluoranthene	< 0.6800	< 0.6800	NA	< 1.7000	NA	< 0.6800	< 0.0680	< 0.0680
Fluorene	< 0.3300	< 0.3300	NA	< 0.8250	NA	< 0.3300	< 0.0330	< 0.0330
Octadecanoic acid, butyl ester (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	< 0.3300	< 0.3300	NA	< 0.8250	NA	< 0.3300	< 0.0330	< 0.0330
Pyrene	< 0.3300	< 0.3300	NA	2.6800**	NA	1.0600**	< 0.0330	< 0.0330
Pesticides (ug/g)								
Endrin	< 0.0066	< 0.0066	< 0.0066	< 12.5000	< 0.0066	< 5.0000	< 0.0066	< 0.4500
Isodrin	< 0.0046	< 0.0046	< 0.0046	< 0.0046	< 0.0046	< 0.0046	< 0.0046	< 0.0046
p,p-DDD	< 0.0083	< 0.0083	< 0.0083	< 7.5000	< 0.0083	< 3.0000	< 0.0083	< 0.2700
p,p-DDE	< 0.0077	< 0.0077	< 0.0077	< 7.5000	< 0.0077	< 3.0000	< 0.0077	< 0.3100
p,p-DDT	< 0.0071	< 0.0071	< 0.0071	< 7.5000	< 0.0071	< 3.0000	< 0.0071	< 0.3100
Herbicides (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA
Total Petroleum Hydrocarbons (ug/g)								
Total petroleum hydrocarbons	80.0000**	122.0000**	NA	1320.0000**	NA	486.0000**	< 28.3000	< 28.3000
Explosives (ug/g)	ND	ND	NA	ND	NA	ND	ND	ND
Dioxins/Furans (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA

Notes: ** = [illegible] e was detected at the concentration shown < = Not detected at the [illegible] shown, NA = Not analyzed

TOOELE AD-NORTH AREA: SWMU NO. 29 - DRUM STORAGE AREA
SOIL ANALYTICAL RESULTS FOR ORGANIC COMPOUNDS

Sample ID	SB-29-028-DUP	SB-29-029	SB-29-029	SB-29-030	SB-29-030	SB-29-031	SB-29-031-DUP	SB-29-031
Lab ID	OIL1*628	OIL1*605	OIL1*606	OIL1*607	OIL1*608	OIL1*609	OIL1*793	OIL1*610
Date Sampled	06/15/92	06/15/92	06/15/92	06/17/92	06/17/92	06/17/92	06/17/92	06/17/92
Depth (ft)	4.000 ft	0.000 ft	4.000 ft	0.000 ft	4.000 ft	0.000 ft	0.000 ft	4.000 ft
Volatile Organic Compounds (ug/g)								
Hexane	NA	NA	NA	0.0073**	0.0052**	NA	NA	NA
Toluene	< 0.0008	NA	< 0.0008	< 0.0008	< 0.0008	NA	NA	< 0.0008
Semivolatile Organic Compounds (ug/g)								
Acenaphthene	< 0.0360	NA	< 0.0360	< 0.0360	< 0.0360	NA	0.1100**	< 0.0360
Anthracene	< 0.0330	NA	< 0.0330	< 0.0330	< 0.0330	NA	0.0890**	< 0.0330
Benzo[a]anthracene	< 0.1700	NA	< 0.1700	< 0.1700	< 0.1700	NA	0.2500**	< 0.1700
Benzo[a]pyrene	< 0.2500	NA	< 0.2500	< 0.2500	< 0.2500	NA	0.3910**	< 0.2500
Benzo[b]fluoranthene	< 0.2100	NA	< 0.2100	< 0.2100	< 0.2100	NA	0.3650**	< 0.2100
Benzo[e]pyrine (TIC)	NA	NA	NA	NA	NA	NA	0.3180**	NA
Benzo[k]fluoranthene	< 0.0660	NA	< 0.0660	< 0.0660	< 0.0660	NA	0.3190**	< 0.0660
Bis (2-ethylhexyl) phthalate	< 0.6200	NA	< 0.6200	< 0.6200	< 0.6200	NA	< 0.6200	< 0.6200
Chrysene	< 0.1200	NA	< 0.1200	< 0.1200	< 0.1200	NA	0.4030**	< 0.1200
Fluoranthene	< 0.0680	NA	< 0.0680	< 0.0680	< 0.0680	NA	0.5800**	< 0.0680
Fluorene	< 0.0330	NA	< 0.0330	< 0.0330	< 0.0330	NA	0.0540**	< 0.0330
Octadecanoic acid, butyl ester (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	< 0.0330	NA	< 0.0330	< 0.0330	< 0.0330	NA	0.4500**	< 0.0330
Pyrene	< 0.0330	NA	< 0.0330	< 0.0330	< 0.0330	NA	0.7400**	< 0.0330
Pesticides (ug/g)								
Endrin	< 0.0066	< 0.0066	< 0.0066	< 0.0066	< 0.0066	< 0.0066	< 0.0066	< 0.0066
Isodrin	< 0.0046	< 0.0046	< 0.0046	< 0.0046	< 0.0046	< 0.0046	< 0.0046	< 0.0046
p,p-DDD	< 0.0083	< 0.0083	< 0.0083	< 0.0083	< 0.0083	< 0.0083	< 0.0083	< 0.0083
p,p-DDE	< 0.0077	< 0.0077	< 0.0077	< 0.0077	< 0.0077	< 0.0077	< 0.0077	< 0.0077
p,p-DDT	< 0.0071	< 0.0071	< 0.0071	0.0100**	< 0.0071	< 0.0071	< 0.0071	< 0.0071
Herbicides (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA
Total Petroleum Hydrocarbons (ug/g)								
Total petroleum hydrocarbons	< 28.7000	NA	< 28.5000	< 30.1000	33.2000**	NA	NA	34.3000**
Explosives (ug/g)	ND	ND	ND	ND	ND	ND	ND	ND
Dioxins/Furans (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA

Notes: ** = / 'e was detected at the concentrati sl.. ..) < = Not detected at the shown, NA = Not analyzed

TOOELE AD-NORTH AREA: SWMU NO. 29 - DRUM STORAGE AREA
SOIL ANALYTICAL RESULTS FOR ORGANIC COMPOUNDS

Sample ID	SB-29-032	SB-29-032	SB-29-033	SB-29-033	SB-29-034	SB-29-034	SB-29-035	SB-29-035
Lab ID	OIL1*611	OIL1*612	OIL1*613	OIL1*614	OIL1*615	OIL1*616	OIL1*617	OIL1*618
Date Sampled	06/17/92	06/17/92	06/17/92	06/17/92	06/17/92	06/17/92	06/17/92	06/17/92
Depth (ft)	0.000 ft	4.000 ft	0.000 ft	3.000 ft	0.000 ft	4.000 ft	0.000 ft	4.000 ft
Volatile Organic Compounds (ug/g)								
Hexane	NA	0.0100**	0.0065**	NA	NA	NA	NA	0.0053**
Toluene	NA	< 0.0008	< 0.0008	< 0.0008	NA	< 0.0008	NA	< 0.0008
Semivolatile Organic Compounds (ug/g)								
Acenaphthene	NA	< 0.0360	< 0.7000	< 0.0360	NA	< 0.4000	NA	< 0.0360
Anthracene	NA	< 0.0330	< 0.7000	< 0.0330	NA	< 0.3000	NA	< 0.0330
Benzo[a]anthracene	NA	< 0.1700	< 3.0000	< 0.1700	NA	< 2.0000	NA	< 0.1700
Benzo[a]pyrene	NA	< 0.2500	< 5.0000	< 0.2500	NA	< 2.0000	NA	< 0.2500
Benzo[b]fluoranthene	NA	< 0.2100	< 4.0000	< 0.2100	NA	< 2.0000	NA	< 0.2100
Benzo[e]pyrine (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
Benzo[k]fluoranthene	NA	< 0.0660	< 1.0000	< 0.0660	NA	< 0.7000	NA	< 0.0660
Bis (2-ethylhexyl) phthalate	NA	< 0.6200	< 10.0000	< 0.6200	NA	< 6.0000	NA	< 0.6200
Chrysene	NA	< 0.1200	< 2.0000	< 0.1200	NA	< 1.0000	NA	< 0.1200
Fluoranthene	NA	< 0.0680	< 1.0000	< 0.0680	NA	< 0.7000	NA	< 0.0680
Fluorene	NA	< 0.0330	< 0.7000	< 0.0330	NA	< 0.3000	NA	< 0.0330
Octadecanoic acid, butyl ester (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	NA	< 0.0330	< 0.7000	< 0.0330	NA	< 0.3000	NA	< 0.0330
Pyrene	NA	< 0.0330	< 0.7000	< 0.0330	NA	< 0.3000	NA	< 0.0330
Pesticides (ug/g)								
Endrin	< 0.0066	< 0.0066	< 0.0066	< 0.0066	< 0.0066	< 0.0066	< 0.0066	< 0.0066
Isodrin	< 0.0046	< 0.0046	< 0.0046	< 0.0046	< 0.0046	< 0.0046	< 0.0046	< 0.0046
p,p-DDD	< 0.0083	< 0.0083	< 0.0083	< 0.0083	< 0.0083	< 0.0083	< 0.0083	< 0.0083
p,p-DDE	< 0.0077	< 0.0077	< 0.0077	< 0.0077	< 0.0077	< 0.0077	< 0.0077	< 0.0077
p,p-DDT	< 0.0071	< 0.0071	0.0120**	< 0.0071	0.0186**	< 0.0071	0.0754**	< 0.0071
Herbicides (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA
Total Petroleum Hydrocarbons (ug/g)								
Total petroleum hydrocarbons	NA	44.7000**	301.0000**	41.4000**	NA	80.5000**	NA	< 28.1000
Explosives (ug/g)	NA	ND	ND	ND	NA	ND	NA	ND
Dioxins/Furans (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA

Notes: ** ... e was detected at the concentration shown < = Not detected at t... shown, NA = Not analyzed

TOOELE AD-NORTH AREA. .J NO. 29 - DRUM STORAGE AREA
SOIL ANALYTICAL RESULTS FOR ORGANIC COMPOUNDS

Sample ID	SB-29-036	SB-29-036	SB-29-037	SB-29-037
Lab ID	OIL1*619	OIL1*620	OIL1*621	OIL1*622
Date Sampled	06/17/92	06/17/92	06/17/92	06/17/92
Depth (ft)	0.000 ft	3.000 ft	0.000 ft	4.000 ft
Volatile Organic Compounds (ug/g)				
Hexane	NA	0.0052**	NA	0.0088**
Toluene	NA	0.0025**	NA	< 0.0008
Semivolatile Organic Compounds (ug/g)				
Acenaphthene	NA	< 0.0360	NA	< 0.0360
Anthracene	NA	< 0.0330	NA	< 0.0330
Benzo[a]anthracene	NA	< 0.1700	NA	< 0.1700
Benzo[a]pyrene	NA	< 0.2500	NA	< 0.2500
Benzo[b]fluoranthene	NA	< 0.2100	NA	< 0.2100
Benzo[e]pyrine (TIC)	NA	NA	NA	NA
Benzo[k]fluoranthene	NA	< 0.0660	NA	< 0.0660
Bis (2-ethylhexyl) phthalate	NA	< 0.6200	NA	< 0.6200
Chrysene	NA	< 0.1200	NA	< 0.1200
Fluoranthene	NA	< 0.0680	NA	< 0.0680
Fluorene	NA	< 0.0330	NA	< 0.0330
Octadecanoic acid, butyl ester (TIC)	NA	NA	NA	NA
Phenanthrene	NA	0.0390**	NA	< 0.0330
Pyrene	NA	< 0.0330	NA	< 0.0330
Pesticides (ug/g)				
Endrin	< 0.0066	< 0.0066	< 0.0066	< 0.0066
Isodrin	< 0.0046	< 0.0046	< 0.0046	< 0.0046
p,p-DDD	< 0.0083	< 0.0083	< 0.0083	< 0.0083
p,p-DDE	< 0.0077	< 0.0077	< 0.0077	< 0.0077
p,p-DDT	0.0239**	< 0.0071	0.0294**	< 0.0071
Herbicides (ug/g)	NA	NA	NA	NA
Total Petroleum Hydrocarbons (ug/g)				
Total petroleum hydrocarbons	NA	41.3000**	NA	33.5000**
Explosives (ug/g)	NA	ND	NA	ND
Dioxins/Furans (ug/g)	NA	NA	NA	NA

Notes: ** = ' 'te was detected at the concentration shown < = Not detected at the ' ' shown, NA = Not analyzed

Table 5-17

MONTGOMERY WATSON

TABLE 5-17

PESTICIDE HANDLING AND STORAGE AREA (SWMU 34) ANALYTICAL RESULTS

TOOELE AD-NORTH AREA: SWMU NO. 34 - PESTICIDE HANDLING AND STORAGE AREA
SOIL ANALYTICAL RESULTS FOR METALS

Sample ID	SS-34-001	SS-34-002	SS-34-002-DUP	SS-34-003	SS-34-004	SS-34-005	SS-34-006
Lab ID	OIL1*629	OIL1*630	OIL1*634	OIL1*631	OIL1*632	OIL1*633	OIL1*773
Date Sampled	07/21/92	07/21/92	07/21/92	07/21/92	07/21/92	07/21/92	07/21/92
Depth (ft)	0.000 ft	0.000 ft	0.000 ft	0.000 ft	0.000 ft	0.000 ft	0.000 ft
Metals and Cyanide (ug/g)							
Aluminum	4000.0000	4580.0000	4430.0000	2740.0000	1290.0000	2870.0000	1860.0000
Antimony	< 7.1400	< 7.1400	< 7.1400	< 7.1400	< 7.1400	< 7.1400	< 7.1400
Arsenic	17.0000	30.0000	38.0000	8.6900	7.7300	42.0000	18.0000
Barium	79.0000	101.0000	99.6000	47.8000	27.7000	85.9000	57.6000
Beryllium	< 0.5000	0.6540	1.1300	< 0.5000	< 0.5000	0.9510	0.7070
Cadmium	1.3600**	3.6600**	2.8200**	< 0.7000	< 0.7000	11.6000**	3.9500**
Calcium	35600.0000	13400.0000	11900.0000	46200.0000	44400.0000	28000.0000	36500.0000
Chromium	14.2000	22.9000**	16.0000	9.8000	5.5600	29.0000**	28.7000**
Cobalt	3.5100	5.3300	5.0000	1.6500	< 1.4200	4.1600	2.0900
Copper	52.6000**	43.3000**	44.6000**	14.2000	5.5300	180.0000**	73.4000**
Cyanide	< 0.9200	< 0.9200	< 0.9200	< 0.9200	< 0.9200	< 0.9200	2.8800**
Iron	7490.0000	18300.0000	17900.0000	4230.0000	2610.0000	13900.0000	6660.0000
Lead	145.0000**	230.0000**	198.0000**	41.3000	29.2000	1120.0000**	223.0000**
Magnesium	3060.0000	3010.0000	3050.0000	3950.0000	5780.0000	4510.0000	4860.0000
Manganese	210.0000	252.0000	261.0000	130.0000	97.4000	255.0000	137.0000
Mercury	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500
Nickel	13.6000	29.6000**	15.1000	5.2100	3.1500	16.5000	5.7400
Potassium	1200.0000	1460.0000	1420.0000	797.0000	425.0000	851.0000	508.0000
Selenium	0.4480**	< 0.2500	0.3840**	< 0.2500	< 0.2500	< 0.2500	< 0.2500
Silver	< 0.5890	< 0.5890	< 0.5890	< 0.5890	< 0.5890	< 0.5890	< 0.5890
Sodium	235.0000	274.0000	276.0000	258.0000	223.0000	343.0000	254.0000
Thallium	< 6.6200	< 6.6200	< 6.6200	< 6.6200	< 6.6200	9.5800	9.8600**
Vanadium	8.9600	8.9000	8.5500	7.7700	5.9000	8.5200	6.3100
Zinc	594.0000**	647.0000**	589.0000**	77.9000	1090.0000**	2210.0000**	667.0000**

6-17-1

Notes: ** = Value is above the background concentration for the depth shown, < = Not detected at the value shown, NA = Not analyzed

TOOELE AD-NORTH AREA: SWMU NO. 34 - .ICIDE HANDLING AND STORAGE AREA
SOIL ANALYTICAL RESULTS FOR ORGANIC COMPOUNDS

mple ID	SS-34-001	SS-34-002	SS-34-002-DUP	SS-34-003	SS-34-004	SS-34-005	SS-34-006
b ID	01L1*629	01L1*630	01L1*634	01L1*631	01L1*632	01L1*633	01L1*773
te Sampled	07/21/92	07/21/92	07/21/92	07/21/92	07/21/92	07/21/92	07/21/92
pth (ft)	0.000 ft	0.000 ft	0.000 ft	0.000 ft	0.000 ft	0.000 ft	0.000 ft
latile Organic Compounds (ug/g)	NA	NA	NA	NA	NA	NA	NA
mivolatile Organic Compounds (ug/g)	NA	NA	NA	NA	NA	NA	NA
sticides (ug/g)							
Endrin	< 0.0330	< 0.0066	0.1100**	< 0.0066	1.4000**	4.5000**	0.2300**
Heptachlor	21.0000**	< 0.0062	< 0.0062	< 0.0062	< 0.0062	< 1.2000	< 0.0062
Heptachlor epoxide	< 0.0310	< 0.0062	< 0.0062	< 0.0062	< 0.0062	0.0064**	< 0.0062
Lindane / gamma-Benzenehexachloride	< 0.0320	0.0072**	< 0.0064	< 0.0064	< 0.0064	< 0.0064	< 0.0064
alpha-Chlordane	42.0000**	0.2400**	0.2200**	0.1100**	< 0.0050	7.3000**	0.2700**
gamma-Chlordane	54.0000**	0.2400**	0.2100**	0.0570**	< 0.0050	11.0000**	0.3700**
p,p-DDD	0.7200**	2.1000**	0.9600**	0.1700**	0.0420**	0.2000**	0.0830**
p,p-DDE	4.9000**	0.5800**	0.6700**	1.2000**	0.1600**	0.6100**	0.1300**
p,p-DDT	9.0000**	3.0000**	3.0000**	3.7000**	0.1100**	1.0000**	0.5500**
rbicides (ug/g)							
2,4-Dichlorophenoxyacetic acid / 2,4-D	0.8300**	0.2900**	0.0960**	< 0.0177	0.0620**	99.0000**	0.3700**
tal Petroleum Hydrocarbons (ug/g)	NA	NA	NA	NA	NA	NA	NA
plosives (ug/g)	NA	NA	NA	NA	NA	NA	NA
oxins/Furans (ug/g)	NA	NA	NA	NA	NA	NA	NA

es: ** = Analyte was detected at the concentration shown < = Not detected at the value shown, NA = Not analyzed

Table 5-18

MONTGOMERY WATSON

TABLE 5-18

CONTAMINATED WASTE PROCESSING PLANT (SWMU 37) ANALYTICAL RESULTS

TOOELE AD-NORTH AREA: SWMU NO. 37 - CONTAMINATED WASTE PROCESSING PLANT
SOIL ANALYTICAL RESULTS FOR METALS

Sample ID	SS-37-001	SS-37-002	SS-37-003	SS-37-004	SS-37-005	SS-37-006	SS-37-007	SS-37-00
Lab ID	OIL1*635	OIL1*636	OIL1*637	OIL1*638	OIL1*639	OIL1*640	OIL1*641	OIL1*642
Date Sampled	07/13/92	07/13/92	07/13/92	07/13/92	07/13/92	07/13/92	07/13/92	07/13/92
Depth (ft)	0.000 ft	0.000 ft	0.000 ft	0.000 ft	0.000 ft	0.000 ft	0.000 ft	0.000 ft
Metals and Cyanide (ug/g)								
Aluminum	1830.0000	2070.0000	2180.0000	3440.0000	2270.0000	2990.0000	2650.0000	3220.0000
Antimony	< 7.1400	< 7.1400	< 7.1400	< 7.1400	< 7.1400	< 7.1400	< 7.1400	< 7.1400
Arsenic	3.4300	6.9600	3.5200	3.9600	3.8900	3.8900	3.8000	3.6800
Barium	39.6000	41.2000	41.8000	57.3000	48.0000	69.8000	77.6000	59.7000
Beryllium	0.5880	< 0.5000	0.5880	< 0.5000	< 0.5000	0.6320	< 0.5000	< 0.5000
Cadmium	< 0.7000	< 0.7000	< 0.7000	< 0.7000	< 0.7000	< 0.7000	< 0.7000	< 0.7000
Calcium	24100.0000	29700.0000	22000.0000	24800.0000	27000.0000	39000.0000	29100.0000	22300.0000
Chromium	4.9600	5.4700	5.1700	5.5600	< 4.0500	5.1200	4.8900	5.1700
Cobalt	2.0900	2.0900	2.0000	2.5900	2.2500	2.2300	2.1800	2.6800
Copper	12.3000	10.5000	10.4000	6.8000	4.3400	6.5400	9.8600	5.1400
Cyanide	< 0.9200	< 0.9200	< 0.9200	< 0.9200	< 0.9200	< 0.9200	< 0.9200	< 0.9200
Iron	4480.0000	4970.0000	4460.0000	5790.0000	4780.0000	4980.0000	5790.0000	5330.0000
Lead	8.8000	7.9500	7.4900	8.4400	6.2300	8.8800	15.0000	7.3500
Magnesium	3490.0000	4970.0000	3620.0000	4350.0000	3790.0000	4290.0000	4310.0000	3590.0000
Manganese	83.3000	190.0000	97.8000	136.0000	97.3000	148.0000	178.0000	143.0000
Mercury	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500
Nickel	3.3700	4.2100	4.1600	5.2000	4.0900	4.2900	4.5700	4.6800
Potassium	454.0000	478.0000	657.0000	999.0000	817.0000	1020.0000	978.0000	1100.0000
Selenium	< 0.2500	< 0.2500	< 0.2500	< 0.2500	< 0.2500	< 0.2500	0.4630**	0.3870
Silver	< 0.5890	< 0.5890	< 0.5890	< 0.5890	< 0.5890	< 0.5890	< 0.5890	< 0.5890
Sodium	233.0000	233.0000	323.0000	285.0000	234.0000	306.0000	203.0000	251.0000
Thallium	< 6.6200	< 6.6200	< 6.6200	< 6.6200	< 6.6200	< 6.6200	< 6.6200	< 6.6200
Vanadium	9.1400	10.1000	8.5800	10.3000	9.6300	8.8400	8.4200	9.8900
Zinc	27.0000	30.3000	60.2000	50.2000	25.1000	32.2000	43.6000	21.5000

Notes: * · is above the background concentration for the depth shown, < · tected at the value sh = Not analyzed

TOOELE AD-NORTH AREA: SWMU NO. 37 - CONTAMINATED WASTE PROCESSING PLANT
SOIL ANALYTICAL RESULTS FOR METALS

Sample ID	SS-37-009	SS-37-010	SS-37-010-DUP	SS-37-011	SS-37-012
Lab ID	OIL1*643	OIL1*644	OIL1*647	OIL1*645	OIL1*646
Date Sampled	07/13/92	07/13/92	07/13/92	07/13/92	07/13/92
Depth (ft)	0.000 ft	0.000 ft	0.000 ft	0.000 ft	0.000 ft
Metals and Cyanide (ug/g)					
Aluminum	1750.0000	1980.0000	1850.0000	1260.0000	1340.0000
Antimony	< 7.1400	< 7.1400	< 7.1400	< 7.1400	< 7.1400
Arsenic	3.5300	3.5000	3.4600	4.2900	3.6200
Barium	46.6000	43.1000	42.7000	35.2000	33.9000
Beryllium	< 0.5000	< 0.5000	< 0.5000	< 0.5000	< 0.5000
Cadmium	< 0.7000	0.9710**	< 0.7000	< 0.7000	1.6000**
Calcium	29500.0000	25500.0000	29000.0000	24100.0000	17800.0000
Chromium	< 4.0500	5.1700	5.3200	< 4.0500	11.6000
Cobalt	2.2300	2.2600	2.1500	1.7900	1.7700
Copper	3.5200	4.4200	4.2100	2.0700	14.9000
Cyanide	< 0.9200	< 0.9200	< 0.9200	< 0.9200	< 0.9200
Iron	3900.0000	4390.0000	4090.0000	3600.0000	7560.0000
Lead	9.9800	10.4000	11.0000	4.7700	36.8000
Magnesium	3110.0000	3550.0000	4900.0000	3300.0000	2640.0000
Manganese	82.3000	92.1000	92.1000	66.2000	91.7000
Mercury	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500
Nickel	4.1600	3.6700	3.5500	2.7100	8.5500
Potassium	519.0000	558.0000	531.0000	303.0000	410.0000
Selenium	0.3820**	< 0.2500	0.3630**	< 0.2500	0.3460**
Silver	< 0.5890	< 0.5890	< 0.5890	< 0.5890	< 0.5890
Sodium	210.0000	227.0000	244.0000	212.0000	217.0000
Thallium	< 6.6200	< 6.6200	< 6.6200	< 6.6200	< 6.6200
Vanadium	7.9900	8.8600	8.7800	7.7300	6.1200
Zinc	18.4000	26.9000	23.2000	12.1000	509.0000**

lotes: ** = Value is above the background concentration for the depth shown, < = Not detected at the value shown, NA = Not analyzed

TOOELE AD-NORTH AREA: SWMU NO. 37 - CONTAMINATED WASTE PROCESSING PLANT
SOIL ANALYTICAL RESULTS FOR ORGANIC COMPOUNDS

Sample ID	SS-37-001	SS-37-002	SS-37-003	SS-37-004	SS-37-005	SS-37-006	SS-37-007	SS-37-0
Lab ID	OIL1*635	OIL1*636	OIL1*637	OIL1*638	OIL1*639	OIL1*640	OIL1*641	OIL1*64
Date Sampled	07/13/92	07/13/92	07/13/92	07/13/92	07/13/92	07/13/92	07/13/92	07/13/9
Depth (ft)	0.000 ft	0.000 ft	0.000 ft	0.000 ft	0.000 ft	0.000 ft	0.000 ft	0.000 f
Volatile Organic Compounds (ug/g)								
2-Methyl-2-propanol/tert-Butanone (TIC)	NA	NA	NA	NA	NA	NA	NA	N
Xylenes	< 0.0015	< 0.0015	< 0.0015	< 0.0015	< 0.0015	< 0.0015	< 0.0015	< 0.001
Semivolatile Organic Compounds (ug/g)								
2,6,10,14-Tetramethylpentadecane (TIC)	NA	NA	NA	NA	NA	NA	NA	N
Anthracene	< 0.2000	< 0.7000	0.1100**	< 0.7000	< 0.2000	< 0.0330	< 0.7000	< 0.033
Benzo[a]anthracene	< 0.8000	< 3.0000	0.6700**	< 3.0000	< 0.8000	< 0.1700	< 3.0000	0.190
Benzo[a]pyrene	< 1.0000	< 5.0000	0.8200**	< 5.0000	< 1.0000	< 0.2500	< 5.0000	< 0.250
Benzo[b]fluoranthene	< 1.0000	< 4.0000	0.9400**	< 4.0000	< 1.0000	< 0.2100	< 4.0000	< 0.210
Benzo[e]pyrine (TIC)	NA	NA	0.5200**	NA	NA	NA	NA	N
Benzo[g,h,i]perylene	< 1.0000	< 5.0000	0.4500**	< 5.0000	< 1.0000	< 0.2500	< 5.0000	< 0.250
Benzo[k]fluoranthene	< 0.3000	< 1.0000	0.5000**	< 1.0000	1.0000**	< 0.0660	2.0000**	0.240
Chrysene	< 0.6000	< 2.0000	1.3000**	< 2.0000	1.0000**	< 0.1200	< 2.0000	0.390
Eicosane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	< 0.3000	2.0000**	1.8000**	< 1.0000	2.0000**	0.1600**	5.0000**	0.6100
Heneicosane	NA	NA	NA	NA	NA	NA	NA	NA
Heptadecane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
Hexadecane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
Indeno[1,2,3-C,D]pyrene	< 1.0000	< 6.0000	0.4600**	< 6.0000	< 1.0000	< 0.2900	< 6.0000	< 0.2900
Octadecane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	0.3000**	2.0000**	0.9100**	< 0.7000	2.0000**	0.0840**	2.0000**	0.3100
Pyrene	0.4000**	2.0000**	1.5000**	< 0.7000	2.0000**	0.1600**	5.0000**	0.5200
Tetradecane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
Tridecane (TIC)	NA	NA	NA	NA	NA	NA	NA	NA
Pesticides (ug/g)	ND	ND	ND	ND	ND	ND	ND	ND
Herbicides (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA
Total Petroleum Hydrocarbons (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA
Explosives (ug/g)								
2,4,6-Trinitrotoluene	< 0.4560	< 0.4560	0.5150**	< 0.4560	< 0.4560	< 0.4560	< 0.4560	< 0.4560
Dioxins/Furans (ug/g)								

Notes: ** /te was detected at the concentration shown < = Not detected at ne shown, NA = Not analyzed

TOOELE AD-NORTH AREA: SWMU A / - CONTAMINATED WASTE PROCESSING PLANT
SOIL ANALYTICAL RESULTS FOR ORGANIC COMPOUNDS

Sample ID	SS-37-009	SS-37-010	SS-37-010-DUP	SS-37-011	SS-37-012
Lab ID	OIL1*643	OIL1*644	OIL1*647	OIL1*645	OIL1*646
Date Sampled	07/13/92	07/13/92	07/13/92	07/13/92	07/13/92
Depth (ft)	0.000 ft	0.000 ft	0.000 ft	0.000 ft	0.000 ft
Volatile Organic Compounds (ug/g)					
2-Methyl-2-propanol/tert-Butanone (TIC)	NA	NA	0.0087**	NA	NA
Xylenes	< 0.0015	< 0.0015	< 0.0015	0.0017**	< 0.0015
Semivolatile Organic Compounds (ug/g)					
2,6,10,14-Tetramethylpentadecane (TIC)	NA	200.0000**	400.0000**	NA	NA
Anthracene	< 0.2000	< 0.7000	< 0.7000	< 0.0330	< 0.7000
Benzo[a]anthracene	< 0.8000	< 3.0000	< 3.0000	< 0.1700	< 3.0000
Benzo[a]pyrene	< 1.0000	< 5.0000	< 5.0000	< 0.2500	< 5.0000
Benzo[b]fluoranthene	< 1.0000	< 4.0000	< 4.0000	< 0.2100	< 4.0000
Benzo[e]pyrine (TIC)	NA	NA	NA	NA	NA
Benzo[g,h,i]perylene	< 1.0000	< 5.0000	< 5.0000	< 0.2500	< 5.0000
Benzo[k]fluoranthene	0.5000**	< 1.0000	< 1.0000	< 0.0660	2.0000**
Chrysene	1.0000**	< 2.0000	< 2.0000	< 0.1200	5.0000**
Eicosane (TIC)	NA	90.0000**	200.0000**	NA	NA
Fluoranthene	2.0000**	< 1.0000	< 1.0000	< 0.0680	5.0000**
Heneicosane	NA	60.0000**	NA	NA	NA
Heptadecane (TIC)	NA	100.0000**	200.0000**	NA	NA
Hexadecane (TIC)	NA	NA	200.0000**	NA	NA
Indeno[1,2,3-C,D]pyrene	< 1.0000	< 6.0000	< 6.0000	< 0.2900	< 6.0000
Octadecane (TIC)	NA	90.0000**	NA	NA	NA
Phenanthrene	1.0000**	< 0.7000	< 0.7000	< 0.0330	2.0000**
Pyrene	2.0000**	2.0000**	3.0000**	< 0.0330	5.0000**
Tetradecane (TIC)	NA	60.0000**	200.0000**	NA	NA
Tridecane (TIC)	NA	NA	60.0000**	NA	NA
Pesticides (ug/g)	ND	ND	ND	NA	NA
Herbicides (ug/g)	NA	NA	NA	NA	NA
Total Petroleum Hydrocarbons (ug/g)	NA	NA	NA	NA	NA
Explosives (ug/g)					
2,4,6-Trinitrotoluene	< 0.4560	< 0.4560	< 0.4560	< 0.4560	< 0.4560
Dioxins/Furans (ug/g)					

Notes: ** = A- 'yte was detected at the concentration shown < = Not detected at the v-'ue shown, NA = Not analyzed

TOOELE AD-NORTH AREA: SWMU NO. 37 - CONTAMINATED WASTE PROCESSING PLANT
SOIL ANALYTICAL RESULTS FOR ORGANIC COMPOUNDS

Sample ID	SS-37-001	SS-37-002	SS-37-003	SS-37-004	SS-37-005	SS-37-006	SS-37-007	SS-37-008
Lab ID	OIL1*635	OIL1*636	OIL1*637	OIL1*638	OIL1*639	OIL1*640	OIL1*641	OIL1*642
Date Sampled	07/13/92	07/13/92	07/13/92	07/13/92	07/13/92	07/13/92	07/13/92	07/13/92
Depth (ft)	0.000 ft	0.000 ft	0.000 ft	0.000 ft	0.000 ft	0.000 ft	0.000 ft	0.000 ft
2,3,7,8-Tetrachlorodibenzo-p-dioxin	< 0.000004	< 0.000005	< 0.000005	< 0.000008	< 0.000004	< 0.000003	< 0.000004	< 0.000005
2,3,7,8-Tetrachlorodibenzofuran	< 0.000004	< 0.000003	< 0.000003	< 0.000009	< 0.000003	< 0.000005	< 0.000004	< 0.000006
Heptachlorodibenzodioxin - non specific	0.000500**	0.000700**	0.000900**	< 0.000100	< 0.000100	0.000200**	0.000100**	< 0.000007
Heptachlorodibenzofuran - non specific	< 0.000100	0.000100**	< 0.000100	< 0.000020	< 0.000019	< 0.000001	< 0.000100	< 0.000006
Hexachlorodibenzodioxin - non specific	< 0.000020	< 0.000100	0.000200**	< 0.000033	< 0.000020	< 0.000019	< 0.000018	< 0.000016
Hexachlorodibenzofuran - non specific	< 0.000012	< 0.000041	< 0.000027	< 0.000018	< 0.000012	< 0.000012	< 0.000008	< 0.000008
Octachlorodibenzodioxin - non specific	0.002200**	< 0.003100	0.002000**	0.000500**	0.000500**	0.000600**	0.001500**	< 0.000036
Octachlorodibenzofuran - non specific	< 0.000200	0.000200**	< 0.000100	< 0.000100	< 0.000100	< 0.000100	< 0.000100	< 0.000100
Pentachlorodibenzodioxin - non specific	< 0.000015	< 0.000013	< 0.000016	< 0.000034	< 0.000013	< 0.000013	< 0.000015	< 0.000011
Pentachlorodibenzofuran - non specific	< 0.000005	< 0.000004	< 0.000004	< 0.000009	< 0.000002	< 0.000004	< 0.000004	< 0.000003

Notes: ** = Analyte was detected at the concentration shown < = Not detected at the value shown, NA = Not analyzed

TOOELE AD-NORTH AREA: SWMU NO. 3 .ONTAMINATED WASTE PROCESSING PLANT
SOIL ANALYTICAL RESULTS FOR ORGANIC COMPOUNDS

Sample ID	SS-37-009	SS-37-010	SS-37-010-DUP	SS-37-011	SS-37-012
Lab ID	OIL1*643	OIL1*644	OIL1*647	OIL1*645	OIL1*646
Date Sampled	07/13/92	07/13/92	07/13/92	07/13/92	07/13/92
Depth (ft)	0.000 ft	0.000 ft	0.000 ft	0.000 ft	0.000 ft
2,3,7,8-Tetrachlorodibenzo-p-dioxin	< 0.000004	< 0.000012	< 0.000009	< 0.000004	0.000200**
2,3,7,8-Tetrachlorodibenzofuran	< 0.000003	< 0.000013	< 0.000007	< 0.000003	0.000300**
Heptachlorodibenzodioxin - non specific	0.000100**	< 0.000040	< 0.000100	< 0.000019	0.018000**
Heptachlorodibenzofuran - non specific	< 0.000009	< 0.000009	< 0.000009	< 0.000007	0.002200**
Hexachlorodibenzodioxin - non specific	< 0.000015	< 0.000017	< 0.000018	< 0.000013	0.005900**
Hexachlorodibenzofuran - non specific	< 0.000008	< 0.000010	< 0.000009	< 0.000008	0.001600**
Octachlorodibenzodioxin - non specific	0.000500**	< 0.000200	0.000200**	< 0.000100	0.047000**
Octachlorodibenzofuran - non specific	< 0.000031	< 0.000031	< 0.000048	< 0.000032	0.003100**
Pentachlorodibenzodioxin - non specific	< 0.000014	< 0.000020	< 0.000013	< 0.000012	0.000900**
Pentachlorodibenzofuran - non specific	< 0.000004	< 0.000004	< 0.000003	< 0.000003	0.000400**

Notes: ** = Analyte was detected at the concentration shown < = Not detected at the value shown, NA = Not analyzed

TOOELE AD-NORTH AREA: SWMU NO. 37 - CONTAMINATED WASTE PROCESSING PLANT
SOIL ANALYTICAL RESULTS FOR GENERAL CHEMICALS

Sample ID	SS-37-001	SS-37-002	SS-37-003	SS-37-004	SS-37-005	SS-37-006	SS-37-007	SS-37-008
Lab ID	OIL1*635	OIL1*636	OIL1*637	OIL1*638	OIL1*639	OIL1*640	OIL1*641	OIL1*642
Date Sampled	07/13/92	07/13/92	07/13/92	07/13/92	07/13/92	07/13/92	07/13/92	07/13/92
Depth (ft)	0.000 ft	0.000 ft	0.000 ft	0.000 ft	0.000 ft	0.000 ft	0.000 ft	0.000 ft
Anions (ug/g)								
Chloride	< 6.0500	< 6.0500	27.7000	22.5000	< 6.0500	14.7000	< 6.0500	< 6.0500
Nitrite, nitrate - nonspecified	0.6570	0.9840	3.2500**	3.7600**	2.1900	2.0700	9.8700**	1.9600
Total phosphates	450.0000**	330.0000	320.0000	580.0000**	490.0000**	410.0000	160.0000	530.0000*
General Inorganic Parameters								
pH	8.7100	9.3200	9.2200	8.7100	8.6200	8.1600	8.2800	8.1200

Note is above the background concentration for the depth shown, tected at the value shown, NA = Not analyzed

TOOELE AD-NORTH AREA: SWMU NO. 3, CONTAMINATED WASTE PROCESSING PLANT
SOIL ANALYTICAL RESULTS FOR GENERAL CHEMICALS

Sample ID	SS-37-009	SS-37-010	SS-37-010-DUP	SS-37-011	SS-37-012
Lab ID	OIL1*643	OIL1*644	OIL1*647	OIL1*645	OIL1*646
Date Sampled	07/13/92	07/13/92	07/13/92	07/13/92	07/13/92
Depth (ft)	0.000 ft	0.000 ft	0.000 ft	0.000 ft	0.000 ft
Anions (ug/g)					
Chloride	< 6.0500	< 6.0500	< 6.0500	< 6.0500	11.5000
Nitrite, nitrate - nonspecified	0.8800	< 0.6000	< 0.6000	< 0.6000	4.4500**
Total phosphates	330.0000	300.0000	450.0000**	440.0000	340.0000
General Inorganic Parameters					
pH	8.5000	7.9200	7.7900	8.3400	8.0000

Notes: ** = Value is above the background concentration for the depth shown, < = Not detected at the value shown, NA = Not analyzed

Table 5-19

TABLE 5-19

INDUSTRIAL WASTEWATER TREATMENT PLANT (SWMU 38) ANALYTICAL RESULTS

TOOELE AD-NORTH AREA: SWMU NO. 38 - INDUSTRIAL WASTE TREATMENT PLANT
SOIL ANALYTICAL RESULTS FOR METALS

Sample ID	SS-38-001	SS-38-002	SS-38-003	SS-38-004
Lab ID	OIL1*648	OIL1*649	OIL1*650	OIL1*651
Date Sampled	07/21/92	07/21/92	07/21/92	07/21/92
Depth (ft)	0.000 ft	0.000 ft	0.000 ft	0.000 ft
Metals and Cyanide (ug/g)				
Aluminum	3620.0000	3640.0000	3750.0000	4040.0000
Antimony	< 7.1400	< 7.1400	< 7.1400	< 7.1400
Arsenic	9.8800	7.3400	6.2500	6.1900
Barium	120.0000	88.4000	104.0000	111.0000
Beryllium	0.8580	0.7090	0.6770	0.6410
Cadmium	1.0300**	0.9640**	< 0.7000	< 0.7000
Calcium	85000.0000**	51300.0000	84000.0000**	100000.0000**
Chromium	13.0000	12.5000	15.7000	9.4600
Cobalt	2.5600	2.4300	2.5300	2.4000
Copper	20.2000	26.3000**	20.2000	12.3000
Cyanide	< 0.9200	< 0.9200	< 0.9200	< 0.9200
Iron	4960.0000	4800.0000	5100.0000	4940.0000
Lead	35.7000	34.8000	24.0000	30.0000
Magnesium	7260.0000	6190.0000	8090.0000	9410.0000
Manganese	215.0000	225.0000	226.0000	186.0000
Mercury	< 0.0500	0.0627**	< 0.0500	< 0.0500
Nickel	8.5900	7.2800	8.5900	7.7800
Potassium	919.0000	1120.0000	1000.0000	1040.0000
Selenium	< 0.2500	< 0.2500	< 0.2500	< 0.2500
Silver	< 0.5890	< 0.5890	< 0.5890	< 0.5890
Sodium	420.0000	380.0000	496.0000	3730.0000**
Thallium	< 6.6200	< 6.6200	< 6.6200	12.1000**
Vanadium	11.3000	10.3000	11.7000	12.5000
Zinc	136.0000**	66.3000	44.1000	38.1000

Notes: ** = [illegible] is above the background concentration for the depth shown, < = [illegible] ected at the value shown, NA = Not analyzed

TOOELE AD-NORTH AREA: SWMU NO. 38 - INDUSTRIAL WASTE TREATMENT PLANT
SOIL ANALYTICAL RESULTS FOR ORGANIC COMPOUNDS

Sample ID	SS-38-001	SS-38-002	SS-38-003	SS-38-004
Lab ID	OIL1*648	OIL1*649	OIL1*650	OIL1*651
Date Sampled	07/21/92	07/21/92	07/21/92	07/21/92
Depth (ft)	0.000 ft	0.000 ft	0.000 ft	0.000 ft
Volatile Organic Compounds (ug/g)				
1,1,2-Trichloro-1,2,2-trifluoroethane	0.0082**	NA	NA	NA
Trichlorofluoromethane	0.0236**	< 0.0059	< 0.0059	< 0.0059
Semivolatile Organic Compounds (ug/g)				
2,6,10,14-Tetramethylpentadecane (TIC)	4.1000**	NA	NA	0.3100**
2-Butoxyethanol (TIC)	4.1000**	NA	2.1000**	NA
2-Methylnaphthalene	0.6100**	0.2000**	0.2800**	< 0.0490
Benzaldehyde (TIC)	1.0000**	NA	NA	NA
Decane	5.1000**	3.2000**	3.2000**	NA
Di-n-butyl phthalate	0.1900**	< 0.0610	0.0790**	< 0.0610
Dodecane (TIC)	2.0000**	1.1000**	0.9500**	NA
Eicosane (TIC)	NA	0.8500**	1.1000**	0.2100**
Heptadecane (TIC)	4.1000**	1.1000**	2.1000**	0.4100**
Hexadecane (TIC)	3.1000**	1.1000**	1.1000**	NA
Napthalene	0.3700**	0.0990**	0.1700**	< 0.0370
Nonadecane (TIC)	NA	0.7400**	NA	NA
Nonane (TIC)	2.0000**	1.1000**	0.8400**	NA
Octadecane (TIC)	NA	1.1000**	2.1000**	0.3100**
Pentadecane (TIC)	3.1000**	2.1000**	2.1000**	NA
Phenanthrene	0.1800**	0.0660**	0.1700**	< 0.0330
Phenol	0.5000**	< 0.1100	0.6000**	0.3400**
Pyrene	< 0.0330	< 0.0330	0.0620**	0.0490**
Tetradecane (TIC)	2.0000**	1.1000**	1.1000**	NA
Tridecane (TIC)	NA	NA	0.4200**	NA
'esticides (ug/g)	ND	ND	ND	ND
'erbicides (ug/g)	NA	NA	NA	NA
otal Petroleum Hydrocarbons (ug/g)	NA	NA	NA	NA
xplosives (ug/g)	ND	ND	ND	ND
ioxins/Furans (ug/g)	NA	NA	NA	NA

ɔtes: ** = Analyte was detected at the concentration shown < = Not detected at the value shown, NA = Not analyzed

TOOELE AD-NORTH AREA: SWMU NO. 38 - INDUSTRIAL WASTE TREATMENT PLANT
WASTE CARBON SAMPLES ANALYTICAL RESULTS FOR ORGANIC COMPOUNDS

Sample ID	AC-38-001	AC-38-001-DUP
Lab ID	OIL1*652	OIL1*653
Date Sampled	07/21/92	07/21/92
Depth (ft)	0.000 ft	0.000 ft
Volatile Organic Compounds (ug/g)	ND	ND
Semivolatile Organic Compounds (ug/g)		
1-Methylnaphthalene	NA	7.0000**
2-Butoxyethanol (TIC)	NA	40.0000**
2-Methylnaphthalene	7.0000**	5.0000**
4-Methylphenol / 4-Cresol / p-Cresol	5.0000**	5.0000**
Benzothiazole	10.0000**	7.0000**
Diethyl phthalate	4.0000**	4.0000**
Dodecane (TIC)	10.0000**	NA
Fluorene	0.3000**	0.3000**
Heptadecane (TIC)	7.0000**	NA
Napthalene	3.0000**	3.0000**
Nonane (TIC)	NA	20.0000**
Pentadecane (TIC)	20.0000**	10.0000**
Phenanthrene	0.4000**	0.3000**
Phenol	400.0000**	400.0000**
Tetradecane (TIC)	7.0000**	7.0000**
Pesticides (ug/g)	ND	ND
Herbicides (ug/g)	NA	NA
Total Petroleum Hydrocarbons (ug/g)	NA	NA
Explosives (ug/g)	ND	ND
Dioxins/Furans (ug/g)	NA	NA

Notes: ** = / was detected at the concentration shown < = Not detected at the iown, NA = Not analyzed

TOOELE AD-NORTH AREA: SWMU NO. 38 - INDUSTRIAL WASTE TREATMENT PLANT
WASTE CARBON SAMPLES ANALYTICAL RESULTS FOR METALS

Sample ID	AC-38-001	AC-38-001-DUP
Lab ID	OIL1*652	OIL1*653
Date Sampled	07/21/92	07/21/92
Depth (ft)	0.000 ft	0.000 ft
Metals and Cyanide (ug/g)		
Aluminum	3160.0000**	2880.0000**
Antimony	< 7.1400	< 7.1400
Arsenic	7.0300**	6.6300**
Barium	56.5000**	58.5000**
Beryllium	0.7870**	0.8450**
Cadmium	29.3000**	26.3000**
Calcium	4290.0000**	4060.0000**
Chromium	30.1000**	25.8000**
Cobalt	14.5000**	11.2000**
Copper	54.6000**	46.3000**
Cyanide	< 0.9200	< 0.9200
Iron	4310.0000**	4010.0000**
Lead	443.0000**	401.0000**
Magnesium	432.0000**	431.0000**
Manganese	234.0000**	225.0000**
Mercury	< 0.0500	< 0.0500
Nickel	34.9000**	26.8000**
Potassium	703.0000**	775.0000**
Selenium	1.3900**	1.1200**
Silver	< 0.5890	< 0.5890
Sodium	2230.0000**	2160.0000**
Thallium	< 6.6200	< 6.6200
Vanadium	13.8000**	10.9000**
Zinc	559.0000**	519.0000**

Notes: ** = Analyte was detected at the concentration shown < = Not detected at the value shown, NA = Not analyzed

TOOELE AD-NORTH AREA: SWMU NO. 38 - INDUSTRIAL WASTE TREATMENT PLANT
WASTE CARBON LEACHATE ANALYTICAL RESULTS FOR METALS

Sample ID	AC-38-001	AC-38-001-DUP
Lab ID	ILIL*652	ILIL*653
Date Sampled	08/03/92	08/03/92
Depth (ft)	0.000 ft	0.000 ft
Metals and Cyanide (ug/l)		
Aluminum	NA	NA
Antimony	NA	NA
Arsenic	< 73.1000	< 73.1000
Barium	173.0000**	1870.0000**
Beryllium	NA	NA
Cadmium	169.0000**	168.0000**
Calcium	NA	NA
Chromium	< 6.0200	< 6.0200
Cobalt	NA	NA
Copper	NA	NA
Cyanide	NA	NA
Iron	NA	NA
Lead	108.0000**	123.0000**
Magnesium	NA	NA
Manganese	NA	NA
Mercury	< 0.2430	< 0.2430
Nickel	NA	NA
Potassium	NA	NA
Selenium	< 71.1000	< 71.1000
Silver	< 4.6000	< 4.6000
Sodium	NA	NA
Thallium	NA	NA
Vanadium	NA	NA
Zinc	NA	NA

Notes: ** = ' ' was detected at the concentration shown < = Not detected at th' shown, NA = Not analyzed

TOOELE AD-NORTH AREA: SWMU NO. 38 - INDUSTRIAL WASTE TREATMENT PLANT
WASTE CARBON LEACHATE ANALYTICAL RESULTS FOR ORGANIC COMPOUNDS

Sample ID	AC-38-001	AC-38-001-DUP
Lab ID	ILIL*652	ILIL*653
Date Sampled	08/03/92	08/03/92
Depth (ft)	0.000 ft	0.000 ft
Volatile Organic Compounds (ug/l)		
1,1,1-Trichloroethane	< 5.0000	30.0000**
Methylene chloride	2000.0000**	1000.0000**
Semivolatile Organic Compounds (ug/l)		
2-Butoxyethanol (TIC)	20.0000**	30.0000**
Pesticides (ug/l)	ND	ND
Herbicides (ug/l)	NA	NA
Total Petroleum Hydrocarbons (ug/l)	NA	NA
Explosives (ug/l)	ND	ND
Dioxins/Furans (ug/l)	NA	NA

Notes: ** = Analyte was detected at the concentration shown < = Not detected at the value shown, NA = Not analyzed

Table 5-21

MONTGOMERY WATSON

TABLE 5-21

BOMB WASHOUT BUILDING (SWMU 42)
ANALYTICAL RESULTS

TOOELE AD-NORTH AREA: SWMU NO. 42 - BOMB WASHOUT BUILDING
SOIL ANALYTICAL RESULTS FOR METALS

Sample ID	SB-42-001	SB-42-001	SB-42-002	SB-42-002	SB-42-003	SB-42-003-DUP	SB-42-003	SB-42-0
Lab ID	OIL1*654	OIL1*655	OIL1*656	OIL1*657	OIL1*658	OIL1*684	OIL1*659	OIL1*66
Date Sampled	06/26/92	06/26/92	06/26/92	06/26/92	06/26/92	06/26/92	06/26/92	06/26/9
Depth (ft)	0.000 ft	2.000 ft	0.000 ft	2.000 ft	0.000 ft	0.000 ft	2.000 ft	0.000 f
Metals and Cyanide (ug/g)								
Aluminum	8020.0000	1900.0000	7530.0000	1890.0000	8500.0000	9750.0000	7560.0000	3260.000
Antimony	< 7.1400	< 7.1400	< 7.1400	< 7.1400	674.0000**	409.0000**	495.0000**	< 7.140
Arsenic	5.6100	4.0800	5.1800	4.3900	15.0000	6.5900	10.9000	5.090
Barium	95.3000	35.4000	218.0000	79.9000	1570.0000**	1300.0000**	2350.0000**	68.200
Beryllium	0.8420	< 0.5000	< 0.5000	< 0.5000	1.6300	0.7170	0.7770	< 0.500
Cadmium	3.3600**	1.1800**	< 0.7000	1.6600**	41.3000**	26.6000**	44.5000**	< 0.700
Calcium	13300.0000	50100.0000	16500.0000	87000.0000**	31000.0000	26400.0000	31500.0000	45400.000
Chromium	30.2000**	7.3600	11.3000	8.3200	21.2000**	16.7000	20.2000	7.620
Cobalt	4.1400	< 1.4200	3.7200	< 1.4200	10.4000**	3.3300	2.6600	< 1.420
Copper	41.0000**	16.7000	13.2000	24.3000	19000.0000**	1890.0000**	5000.0000**	19.000
Cyanide	< 0.9200	< 0.9200	< 0.9200	< 0.9200	< 0.9200	< 0.9200	< 0.9200	< 0.920
Iron	10400.0000	2880.0000	8320.0000	2770.0000	66000.0000**	10400.0000	18300.0000	4240.000
Lead	91.9000**	28.0000	26.8000	55.1000**	54000.0000**	31000.0000**	37000.0000**	89.200
Magnesium	4430.0000	2970.0000	3730.0000	5160.0000	5550.0000	5140.0000	5470.0000	5680.000
Manganese	296.0000	81.6000	249.0000	80.2000	423.0000	244.0000	254.0000	122.000
Mercury	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	0.0667**	0.0727**	< 0.050
Nickel	10.2000	4.6200	8.8700	5.1800	26.7000**	12.6000	15.4000	4.890
Potassium	2280.0000	407.0000	2180.0000	441.0000	1460.0000	1750.0000	894.0000	883.000
Selenium	< 0.2500	< 0.2500	< 0.2500	< 0.2500	< 0.2500	< 0.2500	< 0.2500	< 0.250
Silver	2.6500**	< 0.5890	0.6610	< 0.5890	34.0000**	16.0000**	170.0000**	< 0.589
Sodium	227.0000	206.0000	243.0000	236.0000	248.0000	148.0000	228.0000	225.000
Thallium	< 6.6200	< 6.6200	< 6.6200	< 6.6200	61.6000**	42.0000**	40.0000**	< 6.620
Vanadium	13.2000	7.4200	13.3000	8.1500	6.1000	12.3000	8.9700	9.520
Zinc	435.0000**	85.7000	52.7000	98.6000	5530.0000**	2600.0000**	9900.0000**	62.800

Note ... is above the background concentration for the depth shown, ... ected at the value shown, NA = Not analyzed

TOOELE AD-NORTH AREA: SWMU NO. 42 - BOMB WASHOUT BUILDING
SOIL ANALYTICAL RESULTS FOR METALS

ample ID	SB-42-004	SB-42-005	SB-42-005	SB-42-006	SB-42-006	SB-42-007	SB-42-007	SB-42-008
ab ID	OIL1*661	OIL1*662	OIL1*663	OIL1*664	OIL1*665	OIL1*666	OIL1*667	OIL1*668
ate Sampled	06/26/92	06/26/92	06/26/92	06/26/92	06/26/92	06/26/92	06/26/92	06/27/92
epth (ft)	2.000 ft	0.000 ft	2.000 ft	0.000 ft	2.000 ft	0.000 ft	2.000 ft	0.000 ft
etals and Cyanide (ug/g)								
Aluminum	2140.0000	6240.0000	3290.0000	11200.0000	1510.0000	8280.0000	2330.0000	8910.0000
Antimony	< 7.1400	35.9000**	< 7.1400	532.0000**	35.1000**	487.0000**	278.0000**	259.0000**
Arsenic	4.5700	6.0200	4.7800	20.0000	3.6600	17.0000	11.5000	21.0000
Barium	34.5000	334.0000**	67.4000	17000.0000**	783.0000**	13000.0000**	44000.0000**	8800.0000**
Beryllium	< 0.5000	0.6420	< 0.5000	1.0800	< 0.5000	0.6160	< 0.5000	0.5610
Cadmium	< 0.7000	< 0.7000	< 0.7000	11.7000**	< 0.7000	11.6000**	1.1600**	11.1000**
Calcium	87000.0000**	25800.0000	45600.0000	16900.0000	95000.0000**	35300.0000	35900.0000	7850.0000
Chromium	8.9700	10.7000	13.1000	140.0000**	15.5000	95.7000**	23.6000**	123.0000**
Cobalt	< 1.4200	3.1400	2.0000	8.9900**	< 1.4200	5.1700	11.6000**	3.0400
Copper	5.6200	23.1000	6.9900	5700.0000**	192.0000**	3900.0000**	7000.0000**	2200.0000**
Cyanide	< 0.9200	< 0.9200	< 0.9200	< 0.9200	< 0.9200	1.0900**	< 0.9200	< 0.9200
Iron	3050.0000	7040.0000	4730.0000	23700.0000**	2730.0000	12300.0000	3370.0000	12000.0000
Lead	8.5000	367.0000**	33.4000	39000.0000**	1380.0000**	23000.0000**	9800.0000**	14000.0000**
Magnesium	5180.0000	5630.0000	3840.0000	15500.0000**	5670.0000	12700.0000	94000.0000**	9400.0000
Manganese	100.0000	237.0000	121.0000	365.0000	64.0000	206.0000	116.0000	270.0000
Mercury	< 0.0500	< 0.0500	< 0.0500	0.0622**	< 0.0500	< 0.0500	< 0.0500	0.0570**
Nickel	5.5900	9.8900	6.5300	63.0000**	6.2500	37.7000**	12.6000	26.7000**
Potassium	519.0000	1920.0000	935.0000	1620.0000	338.0000	705.0000	325.0000	1440.0000
Selenium	< 0.2500	< 0.2500	< 0.2500	< 0.2500	< 0.2500	< 0.2500	< 0.2500	< 0.2500
Silver	< 0.5890	< 0.5890	< 0.5890	1.4900**	< 0.5890	0.8200**	0.8710**	0.8680**
Sodium	220.0000	253.0000	236.0000	281.0000	230.0000	255.0000	401.0000	241.0000
Thallium	< 6.6200	< 6.6200	< 6.6200	54.9000**	8.8200	36.8000**	26.1000**	16.6000**
Vanadium	9.1000	11.9000	9.6600	12.1000	7.2700	8.1800	9.3500	11.2000
Zinc	15.8000	53.6000	18.8000	1590.0000**	61.6000	1060.0000**	1510.0000**	921.0000**

tes: ** = Value is above the background concentration for the depth shown, < = Not detected at the value shown, NA = Not analyzed

TOOELE AD-NORTH AREA: SWMU NO. 42 - BOMB WASHOUT BUILDING
SOIL ANALYTICAL RESULTS FOR METALS

Sample ID	SB-42-008	SB-42-009	SB-42-009	SB-42-009-DUP	SB-42-010	SB-42-010	SB-42-011	SB-42-01
Lab ID	OIL1*669	OIL1*670	OIL1*671	OIL1*685	OIL1*672	OIL1*673	OIL1*674	OIL1*675
Date Sampled	06/27/92	06/27/92	06/27/92	06/27/92	06/27/92	06/27/92	06/27/92	06/27/92
Depth (ft)	2.000 ft	0.000 ft	2.000 ft	2.000 ft	0.000 ft	2.000 ft	0.000 ft	2.000 ft
Metals and Cyanide (ug/g)								
Aluminum	2690.0000	5990.0000	1710.0000	2610.0000	9640.0000	2830.0000	5410.0000	2780.0000
Antimony	9.8100**	< 7.1400	< 7.1400	< 7.1400	172.0000**	< 7.1400	< 7.1400	< 7.1400
Arsenic	4.0300	8.8300	5.7100	6.6200	10.3000	3.4400	11.8000	5.6800
Barium	244.0000	88.3000	57.4000	55.7000	5000.0000**	159.0000	73.8000	48.2000
Beryllium	< 0.5000	< 0.5000	< 0.5000	< 0.5000	0.6730	< 0.5000	< 0.5000	< 0.5000
Cadmium	2.2500**	< 0.7000	< 0.7000	< 0.7000	7.6700**	< 0.7000	< 0.7000	< 0.7000
Calcium	38800.0000	26500.0000	71000.0000**	69000.0000**	18300.0000	70000.0000**	11400.0000	69000.0000
Chromium	31.9000**	9.7600	6.0400	8.6400	70.3000**	10.1000	9.5500	14.0000
Cobalt	3.6600	2.5000	< 1.4200	< 1.4200	3.8300	1.9000	2.4000	1.7000
Copper	38.5000**	13.8000	5.7600	7.9500	1360.0000**	25.7000**	15.5000	6.9100
Cyanide	< 0.9200	< 0.9200	< 0.9200	< 0.9200	< 0.9200	< 0.9200	< 0.9200	< 0.9200
Iron	4410.0000	6910.0000	2600.0000	3360.0000	10600.0000	3740.0000	6320.0000	4080.0000
Lead	210.0000**	42.7000	17.0000	24.1000	8900.0000**	130.0000**	60.0000**	16.0000
Magnesium	3970.0000	4180.0000	[illegible]180.0000	4010.0000	7420.0000	3810.0000	2600.0000	2940.0000
Manganese	96.2000	240.0000	81.9000	92.5000	271.0000	88.0000	214.0000	106.0000
Mercury	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500
Nickel	8.6800	7.0600	4.1900	4.5400	25.1000**	6.2400	6.0700	5.1600
Potassium	606.0000	1880.0000	420.0000	608.0000	1950.0000	644.0000	1650.0000	736.0000
Selenium	< 0.2500	< 0.2500	< 0.2500	< 0.2500	< 0.2500	< 0.2500	< 0.2500	< 0.2500
Silver	5.7700**	< 0.5890	< 0.5890	< 0.5890	< 0.5890	< 0.5890	< 0.5890	< 0.5890
Sodium	210.0000	211.0000	214.0000	111.0000	242.0000	236.0000	198.0000	208.0000
Thallium	< 6.6200	< 6.6200	< 6.6200	< 6.6200	15.3000**	< 6.6200	< 6.6200	< 6.6200
Vanadium	8.4600	11.9000	7.2000	10.3000	12.4000	8.5400	9.7200	7.7700
Zinc	33.2000	45.1000	22.6000	20.0000	1060.0000**	31.4000	56.1000	23.3000

Notes: * * is above the background concentration for the depth shown, tected at the value shown, NA = Not analyzed

TOOELE AD-NORTH AREA: SWMU No. 42 - BOMB WASHOUT BUILDING
SOIL ANALYTICAL RESULTS FOR METALS

ample ID	SB-42-012	SB-42-012	SB-42-013	SB-42-013	SS-42-001	SS-42-002	SS-42-003	SS-42-004
ab ID	OIL1*676	OIL1*677	OIL1*678	OIL1*679	OIL1*687	OIL1*688	OIL1*689	OIL1*690
ate Sampled	06/27/92	06/27/92	06/27/92	06/27/92	06/28/92	06/28/92	06/28/92	06/28/92
epth (ft)	0.000 ft	2.000 ft	0.000 ft	2.000 ft	0.000 ft	0.000 ft	0.000 ft	0.000 ft
etals and Cyanide (ug/g)								
Aluminum	8090.0000	5530.0000	12000.0000	6590.0000	4270.0000	6870.0000	14300.0000	15000.0000
Antimony	108.0000**	50.9000**	449.0000**	60.3000**	< 7.1400	< 7.1400	5300.0000**	3300.0000**
Arsenic	5.1700	3.0700	37.0000	4.7700	4.9800	5.6500	30.0000	47.0000
Barium	1620.0000**	629.0000**	16000.0000**	2420.0000**	55.1000	102.0000	35000.0000**	30000.0000**
Beryllium	< 0.5000	< 0.5000	< 0.5000	< 0.5000	< 0.5000	< 0.5000	1.8000**	3.0000**
Cadmium	3.9100**	1.2900**	22.6000**	3.6600**	0.8940**	< 0.7000	13.9000**	30.0000**
Calcium	4350.0000	15800.0000	16200.0000	7340.0000	73000.0000**	39600.0000	15200.0000	16700.0000
Chromium	26.4000**	13.3000	163.0000**	34.4000**	9.6400	13.8000	298.0000**	243.0000**
Cobalt	3.1000	2.4400	4.5900	2.7700	1.9900	2.8200	16.0000**	11.0000**
Copper	553.0000**	243.0000**	2760.0000**	345.0000**	7.5900	19.0000	21000.0000**	23000.0000**
Cyanide	< 0.9200	< 0.9200	< 0.9200	< 0.9200	< 0.9200	< 0.9200	1.5800**	3.2100**
Iron	8340.0000	5880.0000	10900.0000	7070.0000	4440.0000	7010.0000	87000.0000**	110000.0000**
Lead	6100.0000**	2980.0000**	16000.0000**	2190.0000**	13.0000	81.5000**	100000.0000**	84000.0000**
Magnesium	20400.0000**	5470.0000	25800.0000**	6620.0000	6600.0000	5200.0000	29100.0000**	29000.0000**
Manganese	279.0000	185.0000	286.0000	229.0000	138.0000	189.0000	640.0000**	920.0000**
Mercury	< 0.0500	< 0.0500	0.1280**	< 0.0500	< 0.0500	< 0.0500	0.1090**	0.1080**
Nickel	9.9900	6.6300	18.7000**	9.9800	5.7800	8.9000	373.0000**	420.0000**
Potassium	2150.0000	1330.0000	2070.0000	1720.0000	1220.0000	1840.0000	272.0000	265.0000
Selenium	< 0.2500	< 0.2500	< 0.2500	< 0.2500	< 0.2500	< 0.2500	< 0.2500	< 0.2500
Silver	< 0.5890	< 0.5890	0.9830**	< 0.5890	< 0.5890	< 0.5890	12.0000**	8.0000**
Sodium	229.0000	207.0000	312.0000	222.0000	248.0000	1330.0000	306.0000	350.0000
Thallium	12.6000**	< 6.6200	23.7000**	< 6.6200	< 6.6200	< 6.6200	200.0000**	160.0000**
Vanadium	13.2000	10.2000	13.6000	10.8000	12.1000	16.3000	5.0900	< 10.0000
Zinc	378.0000**	136.0000**	1450.0000**	253.0000**	52.3000	61.5000	5000.0000**	4800.0000**

tes: ** = Value is above the background concentration for the depth shown, < = Not detected at the value shown, NA = Not analyzed

TOOELE AD-NORTH AREA: SWMU NO. 42 - BOMB WASHOUT BUILDING
SOIL ANALYTICAL RESULTS FOR METALS

Sample ID	SS-42-005	SS-42-005-DUP	SS-42-006	SS-42-007	SS-42-008
Lab ID	OIL1*680	OIL1*686	OIL1*681	OIL1*682	OIL1*683
Date Sampled	06/28/92	06/28/92	06/28/92	06/28/92	06/28/92
Depth (ft)	0.000 ft	0.000 ft	0.000 ft	0.000 ft	0.000 ft
Metals and Cyanide (ug/g)					
Aluminum	3770.0000	5310.0000	4260.0000	16500.0000	10000.0000
Antimony	< 7.1400	16.1000**	< 7.1400	1110.0000**	872.0000**
Arsenic	19.0000	28.0000	48.0000	52.0000	32.0000
Barium	183.0000	256.0000**	160.0000	24000.0000**	18000.0000**
Beryllium	< 0.5000	< 0.5000	< 0.5000	0.6810	< 0.5000
Cadmium	1.5700**	2.1400**	2.8200**	78.1000**	89.4000**
Calcium	15900.0000	20400.0000	54000.0000	45900.0000	40000.0000
Chromium	7.7100	11.7000	15.3000	793.0000**	582.0000**
Cobalt	2.0400	2.8200	2.4700	6.4600	5.5600
Copper	53.7000**	67.2000**	60.4000**	12000.0000**	7600.0000**
Cyanide	< 0.9200	1.1200**	< 0.9200	1.1300**	< 0.9200
Iron	5670.0000	7280.0000	5620.0000	17900.0000	14800.0000
Lead	790.0000**	1320.0000**	346.0000**	61000.0000**	40000.0000**
Magnesium	3280.0000	4210.0000	5670.0000	40300.0000**	43600.0000**
Manganese	167.0000	205.0000	208.0000	281.0000	252.0000
Mercury	< 0.0500	< 0.0500	< 0.0500	0.6740**	0.2260**
Nickel	5.0100	6.1000	6.7800	74.1000**	45.9000**
Potassium	1030.0000	1410.0000	1330.0000	695.0000	1230.0000
Selenium	< 0.2500	< 0.2500	< 0.2500	< 0.2500	< 0.2500
Silver	< 0.5890	< 0.5890	< 0.5890	2.3300**	1.7600**
Sodium	110.0000	262.0000	312.0000	384.0000	361.0000
Thallium	< 6.6200	8.6100	10.2000**	86.4000**	68.7000**
Vanadium	9.7100	14.8000	11.6000	12.0000	13.4000
Zinc	94.1000	115.0000**	130.0000**	3310.0000**	3830.0000**

Notes: [illegible] e is above the background concentration for the depth shown, [illegible] tected at the value shown, NA = Not analyzed

'age No. 1
2/21/92

TOOELE AD-NORTH AREA: SWMU No. 42 - BOMB WASHOUT BUILDING
SOIL ANALYTICAL RESULTS FOR ORGANIC COMPOUNDS

ample ID	SB-42-001	SB-42-001	SB-42-002	SB-42-002	SB-42-003	SB-42-003-DUP	SB-42-003	SB-42-004
ab ID	OIL1*654	OIL1*655	OIL1*656	OIL1*657	OIL1*658	OIL1*684	OIL1*659	OIL1*660
ate Sampled	06/26/92	06/26/92	06/26/92	06/26/92	06/26/92	06/26/92	06/26/92	06/26/92
epth (ft)	0.000 ft	2.000 ft	0.000 ft	2.000 ft	0.000 ft	0.000 ft	2.000 ft	0.000 ft
olatile Organic Compounds (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA
emivolatile Organic Compounds (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA
esticides (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA
erbicides (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA
otal Petroleum Hydrocarbons (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA
xplosives (ug/g)								
2,4-Dinitrotoluene	< 0.4240	< 0.4240	< 0.4240	< 0.4240	< 0.4240	< 0.4240	< 0.4240	< 0.4240
2,6-Dinitrotoluene	< 0.5240	< 0.5240	< 0.5240	< 0.5240	< 0.5240	< 0.5240	< 0.5240	< 0.5240
ioxins/Furans (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA

tes: ** = Analyte was detected at the concentration shown < = Not detected at the value shown, NA = Not analyzed

TOOELE AD-NORTH AREA: SWMU NO. 42 - BOMB WASHOUT BUILDING
SOIL ANALYTICAL RESULTS FOR ORGANIC COMPOUNDS

Sample ID	SB-42-004	SB-42-005	SB-42-005	SB-42-006	SB-42-006	SB-42-007	SB-42-007	SB-42-00
Lab ID	OIL1*661	OIL1*662	OIL1*[illegible]	OIL1*664	OIL1*665	OIL1*666	OIL1*667	OIL1*668
Date Sampled	06/26/92	06/26/92	06/[illegible]	06/26/92	06/26/92	06/26/92	06/26/92	06/27/92
Depth (ft)	2.000 ft	0.000 ft	2.[illegible]	0.000 ft	2.000 ft	0.000 ft	2.000 ft	0.000 ft
Volatile Organic Compounds (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA
Semivolatile Organic Compounds (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA
Pesticides (ug/g)	NA	NA	[illegible]	NA	NA	NA	NA	NA
Herbicides (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA
Total Petroleum Hydrocarbons (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA
Explosives (ug/g)								
2,4-Dinitrotoluene	< 0.4240	< 0.4240	< 0.4240	0.5350**	< 0.4240	< 0.4240	22.4000**	< 0.4240
2,6-Dinitrotoluene	< 0.5240	< 0.5240	< 0.5240	< 0.5240	< 0.5240	< 0.5240	1.4200**	< 0.5240
Dioxins/Furans (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA

Notes: ** [illegible] te was detected at the concentration shown < = Not detected at [illegible] shown, NA = Not analyzed

TOOELE AD-NORTH AREA: SWMU .. .2 - BOMB WASHOUT BUILDING
SOIL ANALYTICAL RESULTS FOR ORGANIC COMPOUNDS

ample ID	SB-42-008	SB-42-009	SB-42-009	SB-42-009-DUP	SB-42-010	SB-42-010	SB-42-011	SB-42-011
ab ID	OIL1*669	OIL1*670	OIL1*671	OIL1*685	OIL1*672	OIL1*673	OIL1*674	OIL1*675
ate Sampled	06/27/92	06/27/92	06/27/92	06/27/92	06/27/92	06/27/92	06/27/92	06/27/92
epth (ft)	2.000 ft	0.000 ft	2.000 ft	2.000 ft	0.000 ft	2.000 ft	0.000 ft	2.000 ft
olatile Organic Compounds (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA
emivolatile Organic Compounds (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA
esticides (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA
rbicides (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA
otal Petroleum Hydrocarbons (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA
plosives (ug/g)								
2,4-Dinitrotoluene	< 0.4240	< 0.4240	< 0.4240	< 0.4240	< 0.4240	< 0.4240	< 0.4240	< 0.4240
2,6-Dinitrotoluene	< 0.5240	< 0.5240	< 0.5240	< 0.5240	< 0.5240	< 0.5240	< 0.5240	< 0.5240
oxins/Furans (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA

es: ** = Analyte was detected at the concentration shown < = Not detected at the value shown, NA = Not analyzed

TOOELE AD-NORTH AREA: SWMU NO. 42 - BOMB WASHOUT BUILDING
SOIL ANALYTICAL RESULTS FOR ORGANIC COMPOUNDS

Sample ID	SB-42-012	SB-42-012	SB-42-013	SB-42-013	SS-42-001	SS-42-002	SS-42-003	SS-42-0(
Lab ID	OIL1*676	OIL1*677	OIL1*678	OIL1*679	OIL1*687	OIL1*688	OIL1*689	OIL1*69(
Date Sampled	06/27/92	06/27/92	06/27/92	06/27/92	06/28/92	06/28/92	06/28/92	06/28/9?
Depth (ft)	0.000 ft	2.000 ft	0.000 ft	2.000 ft	0.000 ft	0.000 ft	0.000 ft	0.000 ft
Volatile Organic Compounds (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA
Semivolatile Organic Compounds (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA
Pesticides (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA
Herbicides (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA
Total Petroleum Hydrocarbons (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA
Explosives (ug/g)								
2,4-Dinitrotoluene	< 0.4240	< 0.4240	0.7650**	< 0.4240	< 0.4240	< 0.4240	0.5160**	46.0000
2,6-Dinitrotoluene	< 0.5240	< 0.5240	< 0.5240	< 0.5240	< 0.5240	< 0.5240	< 0.5240	3.0900
Dioxins/Furans (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA

Notes: ** ·te was detected at the concentration shown < = Not detected at ·e shown, NA = Not analyzed

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TOOELE AD-NORTH AREA: SWMU NO. 42 - BOMB WASHOUT BUILDING
SOIL ANALYTICAL RESULTS FOR ORGANIC COMPOUNDS

Sample ID	SS-42-005	SS-42-005-DUP	SS-42-006	SS-42-007	SS-42-008
Lab ID	OIL1*680	OIL1*686	OIL1*681	OIL1*682	OIL1*683
Date Sampled	06/28/92	06/28/92	06/28/92	06/28/92	06/28/92
Depth (ft)	0.000 ft	0.000 ft	0.000 ft	0.000 ft	0.000 ft
Volatile Organic Compounds (ug/g)	NA	NA	NA	NA	NA
Semivolatile Organic Compounds (ug/g)	NA	NA	NA	NA	NA
Pesticides (ug/g)	NA	NA	NA	NA	NA
Herbicides (ug/g)	NA	NA	NA	NA	NA
Total Petroleum Hydrocarbons (ug/g)	NA	NA	NA	NA	NA
Explosives (ug/g)					
2,4-Dinitrotoluene	< 0.4240	< 0.4240	< 0.4240	53.0000**	< 0.4240
2,6-Dinitrotoluene	< 0.5240	< 0.5240	< 0.5240	3.4800**	< 0.5240
Dioxins/Furans (ug/g)	NA	NA	NA	NA	NA

6-[illegible]-10

Notes: ** = Analyte was detected at the concentration shown < = Not detected at the value shown, NA = Not analyzed

Table 5-24

MONTGOMERY WATSON

TABLE 5-24

STORMWATER DISCHARGE AREA
(SWMU 45)
ANALYTICAL RESULTS

TOOELE AD-NORTH AREA: SWMU NO. 45 - STORMWATER DISCHARGE AREA
SOIL ANALYTICAL RESULTS FOR METALS

Sample ID	SB-45-001	SB-45-001	SB-45-001	SB-45-001	SB-45-001-DUP	SB-45-001	SB-45-001	SB-45-0
Lab ID	OIL1*691	OIL1*692	OIL1*693	OIL1*694	OIL1*698	OIL1*695	OIL1*696	OIL1*69
Date Sampled	06/25/92	06/25/92	06/25/92	06/25/92	06/25/92	06/25/92	06/25/92	06/25/9
Depth (ft)	0.000 ft	1.000 ft	5.000 ft	9.000 ft	9.000 ft	13.000 ft	17.000 ft	23.000
Metals and Cyanide (ug/g)								
Aluminum	4000.0000	9720.0000	5450.0000	6960.0000	7690.0000	8780.0000	8910.0000	15900.000
Antimony	< 7.1400	< 7.1400	< 7.1400	< 7.1400	< 7.1400	< 7.1400	< 7.1400	< 7.140
Arsenic	13.8000	8.1600	4.3400	5.4500	5.6500	8.8200**	17.0000**	6.220
Barium	87.4000	113.0000	63.3000	58.9000	60.4000	76.7000	82.1000	217.000
Beryllium	< 0.5000	0.6320	< 0.5000	< 0.5000	< 0.5000	0.9760	< 0.5000	1.570
Cadmium	2.9800**	< 0.7000	< 0.7000	< 0.7000	< 0.7000	< 0.7000	< 0.7000	< 0.700
Calcium	44100.0000	7470.0000	62400.0000	68000.0000	63800.0000	71000.0000	59400.0000	140000.000
Chromium	33.3000**	17.1000	13.4000	13.3000	14.5000	14.7000	16.0000	18.600
Cobalt	3.2300	4.2200	3.0400	3.5700	3.1400	4.6300	4.6900	5.250
Copper	64.7000**	21.5000	8.1600	8.0400	7.6000	11.1000	11.5000	15.000
Cyanide	< 0.9200	< 0.9200	< 0.9200	< 0.9200	< 0.9200	< 0.9200	< 0.9200	< 0.920
Iron	6850.0000	10400.0000	8210.0000	9370.0000	8990.0000	12700.0000	11400.0000	14800.000
Lead	261.0000**	57.5000**	6.3500	5.5200	5.9800	6.6300	7.1600	9.500
Magnesium	4370.0000	5210.0000	7400.0000	8400.0000	8280.0000	10100.0000	9700.0000	11800.000
Manganese	183.0000	452.0000	114.0000	210.0000	197.0000	243.0000	594.0000	543.000
Mercury	0.0751**	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.050
Nickel	9.8300	10.7000	10.2000	9.9400	9.8900	12.0000	15.3000	18.200
Potassium	1010.0000	3200.0000	1660.0000	2080.0000	2180.0000	2730.0000	2600.0000	3870.000
Selenium	< 0.2500	< 0.2500	< 0.2500	< 0.2500	< 0.2500	< 0.2500	< 0.2500	< 0.250
Silver	0.7060**	< 0.5890	< 0.5890	< 0.5890	< 0.5890	< 0.5890	< 0.5890	< 0.589
Sodium	347.0000	503.0000	531.0000	770.0000	737.0000	806.0000	674.0000	962.000
Thallium	< 6.6200	< 6.6200	< 6.6200	< 6.6200	9.7200**	11.1000	< 6.6200	12.600
Vanadium	11.8000	15.8000	17.7000	20.0000	20.0000	26.8000	22.0000	26.100
Zinc	212.0000**	72.4000	30.5000	36.3000	35.9000	47.0000	44.5000	52.700

Notes: ** = Value is above the background concentration for the depth shown, < = Not detected at the value shown, NA = Not analyzed

TOOELE AD-NORTH AREA: SWMU No. [illegible] - STORMWATER DISCHARGE AREA
SOIL ANALYTICAL RESULTS FOR ORGANIC COMPOUNDS

Sample ID	SB-45-001	SB-45-001	SB-45-001	SB-45-001	SB-45-001-DUP	SB-45-001	SB-45-001	SB-45-001
Lab ID	OIL1*691	OIL1*692	OIL1*693	OIL1*694	OIL1*698	OIL1*695	OIL1*696	OIL1*697
Date Sampled	06/25/92	06/25/92	06/25/92	06/25/92	06/25/92	06/25/92	06/25/92	06/25/92
Depth (ft)	0.000 ft	1.000 ft	5.000 ft	9.000 ft	9.000 ft	13.000 ft	17.000 ft	23.000 ft
Volatile Organic Compounds (ug/g)								
1,1,3-Trimethylcyclohexane (TIC)	NA	NA	NA	NA	NA	NA	NA	0.0052**
Semivolatile Organic Compounds (ug/g)								
Bis (2-ethylhexyl) phthalate	< 31.0000	3.7800**	< 0.6200	< 0.6200	< 0.6200	0.8360**	< 0.6200	< 0.6200
Butylbenz ' phthalate	< 8.0000	< 0.1700	< 0.1700	< 0.1700	< 0.1700	0.4640**	< 0.1700	< 0.1700
Pesticides (ug/g)	ND	ND	ND	ND	ND	ND	ND	ND
Herbicides (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA
Total Petroleum Hydrocarbons (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA
Explosives (ug/g)	ND	ND	ND	ND	ND	ND	ND	ND
Dioxins/Furans (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA

Notes: ** = Analyte was detected at the concentration shown < = Not detected at the value shown, NA = Not analyzed

TOOELE AD-NORTH AREA: SWMU NO. 45 - STORMWATER DISCHARGE AREA
SEDIMENT ANALYTICAL RESULTS FOR ORGANIC COMPOUNDS

Sample ID	SD-45-001	SD-45-002	SD-45-003	SD-45-003-DUP	SD-45-004	SD-45-005
Lab ID	OIL1*699	OIL1*700	OIL1*701	OIL1*704	OIL1*702	OIL1*703
Date Sampled	07/09/92	07/09/92	07/09/92	07/09/92	07/09/92	07/09/92
Depth (ft)	0.000 ft	0.000 ft	0.000 ft	0.000 ft	0.000 ft	0.000 ft
Volatile Organic Compounds (ug/g)						
2-Methyl-2-propanol/tert-Butanone (TIC)	NA	0.0531**	NA	NA	NA	NA
Toluene	< 0.0008	0.0600**	< 0.0008	0.0010**	< 0.0008	< 0.0008
Semivolatile Organic Compounds (ug/g)	ND	ND	ND	ND	ND	ND
Pesticides (ug/g)						
Dieldrin	< 0.0063	0.0084**	0.0305**	0.0207**	0.0283**	0.0179**
alpha-Chlordane	< 0.0050	0.0244**	0.0292**	0.0294**	0.1800**	0.1000**
gamma-Chlordane	< 0.0050	0.0341**	0.0274**	0.0354**	0.2400**	0.1100**
p,p-DDD	< 0.0083	0.0840**	0.0278**	0.0216**	0.3800**	0.7000**
p,p-DDE	< 0.0077	0.0174**	< 0.0077	< 0.0077	0.0520**	0.0138**
p,p-DDT	< 0.0071	< 0.0071	0.0124**	0.0109**	0.1400**	0.0459**
Herbicides (ug/g)	NA	NA	NA	NA	NA	NA
Total Petroleum Hydrocarbons (ug/g)	NA	NA	NA	NA	NA	NA
Explosives (ug/g)	ND	ND	ND	ND	ND	ND
Dioxins/Furans (ug/g)	NA	NA	NA	NA	NA	NA

Notes: ** [illegible]te was detected at the concentration shown < = Not detected at [illegible] shown, NA = Not analyzed

TOOELE AD-NORTH AREA: SWMU NO. .. - STORMWATER DISCHARGE AREA
SEDIMENT ANALYTICAL RESULTS FOR METALS

'ample ID	SD-45-001	SD-45-002	SD-45-003	SD-45-003-DUP	SD-45-004	SD-45-005
'ab ID	01L1*699	01L1*700	01L1*701	01L1*704	01L1*702	01L1*703
'ate Sampled	07/09/92	07/09/92	07/09/92	07/09/92	07/09/92	07/09/92
'epth (ft)	0.000 ft	0.000 ft	0.000 ft	0.000 ft	0.000 ft	0.000 ft
'etals and Cyanide (ug/g)						
Aluminum	7740.0000	5010.0000	4400.0000	2330.0000	9340.0000	14000.0000
Antimony	< 7.1400	< 7.1400	< 7.1400	< 7.1400	< 7.1400	< 7.1400
Arsenic	95.0000	7.8700	14.0000	7.3300	12.3000	17.6000
Barium	214.0000	74.9000	53.8000	30.0000	102.0000	153.0000
Beryllium	0.8600	< 0.5000	< 0.5000	< 0.5000	0.7860	1.1200
Cadmium	3.4600**	4.1900**	1.3900**	< 0.7000	5.4400**	6.3500**
Calcium	18600.0000	32100.0000	38800.0000	21400.0000	41200.0000	56100.0000
Chromium	13.5000	33.7000**	18.8000	7.8400	44.2000**	45.0000**
Cobalt	3.6400	3.0800	< 1.4200	< 1.4200	5.7400	7.9900**
Copper	65.2000**	83.3000**	31.1000**	15.9000	109.0000**	117.0000**
Cyanide	< 0.9200	< 0.9200	< 0.9200	< 0.9200	< 0.9200	2.1200**
Iron	11900.0000	6680.0000	4870.0000	2830.0000	11300.0000	16100.0000
Lead	594.0000**	215.0000**	88.8000**	51.0000	319.0000**	254.0000**
Magnesium	5330.0000	5180.0000	8350.0000	3110.0000	8300.0000	10900.0000
Manganese	540.0000	99.7000	80.1000	40.2000	185.0000	226.0000
Mercury	< 0.0500	< 0.0500	< 0.0500	< 0.0500	0.1230**	0.0911**
Nickel	9.1500	12.0000	7.9000	3.5300	18.2000**	22.9000**
Potassium	2880.0000	1360.0000	1420.0000	714.0000	2600.0000	3930.0000
Selenium	< 0.2500	0.4950**	< 0.2500	< 0.2500	0.6890**	1.2300**
Silver	1.2500**	1.3000**	< 0.5890	< 0.5890	1.4800**	1.9500**
Sodium	314.0000	399.0000	424.0000	351.0000	512.0000	735.0000
Thallium	15.5000**	< 6.6200	12.2000**	< 6.6200	16.8000**	22.1000**
Vanadium	15.3000	15.2000	13.0000	7.5000	23.6000	33.4000**
Zinc	324.0000**	257.0000**	92.3000	61.0000	426.0000**	480.0000**

'tes: ** = Value is above the background concentration for the depth shown, < = Not detected at the value shown, NA = Not analyzed

TOOELE AD-NORTH AREA: SWMU NO. 45 - STORMWATER DISCHARGE AREA
SURFACE WATER ANALYTICAL RESULTS FOR ORGANIC COMPOUNDS

Sample ID	SW-45-001	SW-45-002	SW-45-003
Lab ID	NWTR1*21	NWTR1*22	NWTR1*23
Date Sampled	07/09/92	07/09/92	07/09/92
Depth (ft)	0.000 ft	0.000 ft	0.000 ft
Volatile Organic Compounds (ug/l)			
Toluene	0.6800**	< 0.5000	< 0.5000
Semivolatile Organic Compounds (ug/l)			
Tetradecanoic acid / Myristic acid (TIC)	NA	7.0000**	NA
4-Methylphenol / 4-Cresol / p-Cresol	0.6700**	1.5000**	< 0.5200
Bis (2-ethylhexyl) phthalate	16.0000**	20.0000**	< 4.8000
Pesticides (ug/l)	ND	ND	ND
Herbicides (ug/l)	NA	NA	NA
Total Petroleum Hydrocarbons (ug/l)	NA	NA	NA
Explosives (ug/l)			
2,4-Dinitrotoluene	< 4.5000	< 4.5000	< 4.5000
Dioxins/Furans (ug/l)	NA	NA	NA

Notes: ** = Anal s detected at the concentration shown < = Not detected at the va' wn, NA = Not analyzed

TOOELE AD-NORTH AREA: SWMU NO. - STORMWATER DISCHARGE AREA
SURFACE WATER ANALYTICAL RESULTS FOR METALS

Sample ID	SW-45-001	SW-45-002	SW-45-003
Lab ID	NWTR1*21	NWTR1*22	NWTR1*23
Date Sampled	07/09/92	07/09/92	07/09/92
Depth (ft)	0.000 ft	0.000 ft	0.000 ft
Metals and Cyanide (ug/l)			
Aluminum	< 141.0000	< 141.0000	< 141.0000
Antimony	< 38.0000	< 38.0000	< 38.0000
Arsenic	4.8000**	4.8000**	7.6800**
Barium	69.2000**	70.5000**	103.0000**
Beryllium	< 5.0000	< 5.0000	< 5.0000
Cadmium	< 4.0100	< 4.0100	< 4.0100
Calcium	86400.0000**	84800.0000**	94600.0000**
Chromium	< 6.0200	< 6.0200	< 6.0200
Cobalt	< 25.0000	< 25.0000	< 25.0000
Copper	< 8.0900	< 8.0900	< 8.0900
Cyanide	< 2.5000	< 2.5000	12.3000**
Iron	< 38.8000	< 38.8000	89.8000**
Lead	< 1.2600	< 1.2600	1.6300**
Magnesium	31500.0000**	31000.0000**	32400.0000**
Manganese	52.6000**	55.6000**	48.5000**
Mercury	< 0.2430	< 0.2430	< 0.2430
Nickel	< 34.3000	< 34.3000	< 34.3000
Potassium	4800.0000**	4910.0000**	7160.0000**
Selenium	< 3.0200	< 3.0200	< 3.0200
Silver	< 4.6000	< 4.6000	< 4.6000
Sodium	87400.0000**	86500.0000**	96300.0000**
Thallium	< 6.9900	< 6.9900	< 6.9900
Vanadium	< 11.0000	< 11.0000	< 11.0000
Zinc	< 21.1000	< 21.1000	< 21.1000

lotes: ** = Analyte was detected at the concentration shown < = Not detected at the value shown, NA = Not analyzed

Table 5-25

MONTGOMERY WATSON

TABLE 5-25

USED OIL DUMPSTERS (SWMU 46)
ANALYTICAL RESULTS

TOOELE AD-NORTH AREA: SWMU NO. 46 - USED OIL DUMPSTERS
SOIL ANALYTICAL RESULTS FOR ORGANIC COMPOUNDS

Sample ID	SB-46-001	SB-46-002	SB-46-003	SB-46-003-DUP	SB-46-004	SB-46-005	SB-46-006	SB-46-007
Lab ID	OIL1*705	OIL1*706	OIL1*707	OIL1*733	OIL1*708	OIL1*709	OIL1*710	OIL1*711
Date Sampled	07/22/92	07/22/92	07/22/92	07/22/92	0[illegible]/22/92	07/22/92	07/23/92	07/23/92
Depth (ft)	1.000 ft	1.000 ft	1.000 ft	1.000 ft	1.000 ft	1.000 ft	1.000 ft	1.000 ft
Volatile Organic Compounds (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA
Semivolatile Organic Compounds (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA
Pesticides (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA
Herbicides (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA
Total Petroleum Hydrocarbons (ug/g)								
Total petroleum hydrocarbons	4760.0000**	752.0000**	2080.0000**	2850.0000**	< 27.9000	479.0000**	6470.0000**	50700.0000**
Explosives (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA
Dioxins/Furans (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA

Not[illegible] [illegible]yte was detected at the concentration shown < = Not detected [illegible] shown, NA = Not analyzed

TOOELE AD-NORTH AREA: SWMU NO. 46 - USED OIL DUMPSTERS
SOIL ANALYTICAL RESULTS FOR ORGANIC COMPOUNDS

Sample ID	SB-46-007-DUP	SB-46-008	SB-46-009	SB-46-010	SB-46-011	SB-46-012	SB-46-013	SB-46-014
Lab ID	OIL1*734	OIL1*712	OIL1*713	OIL1*714	OIL1*715	OIL1*716	OIL1*717	OIL1*718
Date Sampled	07/23/92	07/23/92	07/23/92	07/24/92	07/24/92	07/24/92	07/24/92	07/24/92
Depth (ft)	1.000 ft	0.900 ft	1.000 ft	1.000 ft	1.000 ft	0.800 ft	1.000 ft	1.000 ft
Volatile Organic Compounds (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA
Semivolatile Organic Compounds (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA
Pesticides (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA
Herbicides (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA
Total Petroleum Hydrocarbons (ug/g)								
Total petroleum hydrocarbons	51200.0000**	85.2000**	457.0000**	< 28.1000	192.0000**	3240.0000**	595.0000**	1130.0000**
Explosives (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA
Dioxins/Furans (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA

Notes: ** = Analyte was detected at the concentration shown < = Not detected at the value shown, NA = Not analyzed

TOOELE AD-NORTH AREA: SWMU NO. 46 - USED OIL DUMPSTERS
SOIL ANALYTICAL RESULTS FOR ORGANIC COMPOUNDS

Sample ID	SB-46-015	SB-46-016	SB-46-017	SB-46-018	SS-46-001	SS-46-002	SS-46-003	SS-46-004
Lab ID	OIL1*719	OIL1*720	OIL1*721	OIL1*722	OIL1*739	OIL1*740	OIL1*741	OIL1*742
Date Sampled	07/24/92	07/25/92	07/25/92	07/25/92	07/22/92	07/22/92	07/22/92	07/22/92
Depth (ft)	1.000 ft	0.600 ft	1.000 ft	1.000 ft	0.000 ft	0.000 ft	0.000 ft	0.000 ft
Volatile Organic Compounds (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA
Semivolatile Organic Compo ds (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA
Pesticides (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA
Herbicides (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA
Total Petroleum Hydrocarbons (ug/g)								
Total petroleum hydrocarbons	35.0000**	16700.0000**	394.0000**	< 27.9000	39100.0000**	574.0000**	6550.0000**	32.3000**
Explosives (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA
Dioxins/Furans (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA

Notes: ** = [illegible] e was detected at the concentration shown < = Not detected at the [illegible] shown, NA = Not analyzed

TOOELE AD-NORTH AREA: SL 46 - USED OIL DUMPSTERS
SOIL ANALYTICAL RESULTS FOR ORGANIC COMPOUNDS

Sample ID	SS-46-005	SS-46-006	SS-46-007	SS-46-008	SS-46-009	SS-46-010	SS-46-011	SS-46-012
Lab ID	OIL1*743	OIL1*744	OIL1*745	OIL1*746	OIL1*747	OIL1*748	OIL1*749	OIL1*750
Date Sampled	07/22/92	07/23/92	07/23/92	07/23/92	07/23/92	07/24/92	07/24/92	07/24/92
Depth (ft)	0.000 ft	0.000 ft	0.000 ft	0.000 ft	0.000 ft	0.000 ft	0.000 ft	0.000 ft
Volatile Organic Compounds (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA
Semivolatile Organic Compounds (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA
Pesticides (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA
Herbicides (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA
Total Petroleum Hydrocarbons (ug/g)								
Total petroleum hydrocarbons	4320.0000**	10800.0000**	20600.0000**	359.0000**	1560.0000**	24800.0000**	1030.0000**	3140.0000**
Explosives (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA
Dioxins/Furans (ug/g)	NA	NA	NA	NA	NA	NA	NA	NA

otes: ** = Analyte was detected at the concentration shown < = Not detected at the value shown, NA = Not analyzed

TOOELE AD-NORTH AREA: SWMU NO. 46 - USED OIL DUMPSTERS
SOIL ANALYTICAL RESULTS FOR ORGANIC COMPOUNDS

Sample ID	SS-46-013	SS-46-014	SS-46-015	SS-46-016	SS-46-017	SS-46-018
Lab ID	OIL1*751	OIL1*752	OIL1*753	OIL1*754	OIL1*755	OIL1*756
Date Sampled	07/24/92	07/24/92	07/24/92	07/25/92	07/25/92	07/25/92
Depth (ft)	0.000 ft	0.000 ft	0.000 ft	0.000 ft	0.000 ft	0.000 ft
Volatile Organic Compounds (ug/g)	NA	NA	NA	.NA	NA	NA
Semivolatile Organic Compounds (ug/g)	NA	NA	NA	NA	NA	NA
Pesticides (ug/g)	NA	NA	NA	NA	NA	NA
Herbicides (ug/g)	NA	NA	NA	NA	NA	NA
Total Petroleum Hydrocarbons (ug/g)						
Total petroleum hydrocarbons	94.4000**	26600.0000**	923.0000**	1100.0000**	12200.0000**	734.0000**
Explosives (ug/g)	NA	NA	NA	NA	NA	NA
Dioxins/furans (ug/g)	NA	NA	NA	NA	NA	NA

Notes: ** = An' 'te was detected at the concentration shown < = Not detected at the v' ' shown, NA = Not analyzed

Table 5-26

MONTGOMERY WATSON

TABLE 5-26

BOILER BLOWDOWN WATER (SWMU 47)
ANALYTICAL RESULTS

TOOELE AD-NORTH AREA: SWMU NO. 47 - BOILER BLOWDOWN WATER
SURFACE WATER ANALYTICAL RESULTS FOR METALS

Sample ID	SW-47-001	SW-47-002
Lab ID	NWTR1*26	NWTR1*28
Date Sampled	07/16/92	02/08/93
Depth (ft)	0.000 ft	0.000 ft
Metals and Cyanide (ug/l)		
Aluminum	< 141.0000	< 141.0000
Antimony	< 38.0000	< 38.0000
Arsenic	10.9000**	< 2.5400
Barium	< 5.0000	26.2000**
Beryllium	< 5.0000	< 5.0000
Cadmium	< 4.0100	< 4.0100
Calcium	1080.0000**	49000.0000**
Chromium	< 6.0200	< 6.0200
Cobalt	< 25.0000	< 25.0000
Copper	81.7000**	16.9000**
Cyanide	< 2.5000	10.8000**
Iron	2060.0000**	179.0000**
Lead	7.8100**	< 1.2600
Magnesium	< 500.0000	14400.0000**
Manganese	43.2000**	29.9000**
Mercury	< 0.2430	< 0.2430
Nickel	< 34.3000	< 34.3000
Potassium	14200.0000**	2220.0000**
Selenium	< 3.0200	< 3.0200
Silver	< 4.6000	< 4.6000
Sodium	940000.0000**	170000.0000**
Thallium	< 6.9900	< 6.9900
Vanadium	< 11.0000	< 11.0000
Zinc	45.6000**	< 21.1000

Notes: ** = Analyte was detected at the concentration shown < = Not detected at the value shown, NA = Not analyzed

TOOELE AD-NORTH AREA: SWM. . 47 - BOILER BLOWDOWN WATER
SURFACE WATER ANALYTICAL RESULTS FOR ORGANIC COMPOUNDS

Sample ID	SW-47-001	SW-47-002
Lab ID	NWTR1*26	NWTR1*28
Date Sampled	07/16/92	02/08/93
Depth (ft)	0.000 ft	0.000 ft
Volatile Organic Compounds (ug/l)		
1,1,1-Trichloroethane	< 1.0000	1.8000**
1,1-Dichloroethane	< 1.0000	1.6000**
Acetone	20.0000**	20.0000**
Chloroform	1.0000**	< 0.5000
Methylene chloride	200.0000**	< 2.3000
Semivolatile Organic Compounds (ug/l)		
2,4-Dichlorophenol	8.6000**	< 2.9000
2-Chlorophenol	4.0000**	< 0.9900
4-Hydroxy-3,5-dimethoxybenzaldehyde (TIC)	20.0000**	NA
4-Hydroxy-3-methoxybenzaldehyde (TIC)	10.0000**	NA
4-Methylphenol / 4-Cresol / p-Cresol	2.5000**	< 0.5200
Heptadecane (TIC)	5.0000**	NA
Pesticides (ug/l)	NA	NA
Herbicides (ug/l)	NA	NA
Total Petroleum Hydrocarbons (ug/l)		
Total petroleum hydrocarbons	< 200.0000	806.0000**
Explosives (ug/l)	ND	ND
Dioxins/Furans (ug/l)	NA	NA

Notes: ** = Analyte was detected at the concentration shown < = Not detected at the value shown, NA = Not analyzed

TOOELE AD-NORTH AREA: SWMU NO. 47 - BOILER BLOWDOWN WATER
SURFACE WATER ANALYTICAL RESULTS FOR GENERAL CHEMICALS

Sample ID	SW-47-002
Lab ID	NWTR1*28
Date Sampled	02/08/93
Depth (ft)	0.000 ft
Anions (ug/l)	
Phosphate	181.0000**
General Inorganic Parameters	NA

Notes: ** = Analyte was detected at the concentration shown < = Not detected at the value shown, NA = Not analyzed

TOOELE AD-NORTH AREA: SWA ., 47 - BOILER BLOWDOWN WATER
SEDIMENT ANALYTICAL RESULTS FOR METALS

Sample ID	SD-47-001	SD-47-002	SD-47-002-DUP	SD-47-003
Lab ID	OIL1*768	OIL1*769	OIL1*774	OIL1*770
Date Sampled	07/16/92	07/16/92	07/16/92	02/08/93
Depth (ft)	0.000 ft	0.000 ft	0.000 ft	1.000 ft
Metals and Cyanide (ug/g)				
Aluminum	5240.0000	2880.0000	2600.0000	3060.0000
Antimony	< 7.1400	< 7.1400	< 7.1400	< 7.1400
Arsenic	18.0000	21.0000	15.0000	10.6000
Barium	395.0000**	66.4000	61.6000	83.9000
Beryllium	1.5400	0.6750	1.1200	< 0.5000
Cadmium	5.4200**	5.6300**	4.1100**	24.7000**
Calcium	65000.0000	66000.0000	57000.0000	57300.0000
Chromium	50.8000**	13.4000	12.8000	63.8000**
Cobalt	6.2600	3.5000	3.5200	5.0400
Copper	176.0000**	1480.0000**	946.0000**	197.0000**
Cyanide	< 0.9200	< 0.9200	< 0.9200	< 0.9200
Iron	32700.0000**	10500.0000	12700.0000	10500.0000
Lead	647.0000**	201.0000**	131.0000**	265.0000**
Magnesium	8770.0000	6900.0000	6920.0000	8080.0000
Manganese	320.0000	275.0000	237.0000	149.0000
Mercury	0.3190**	< 0.0500	< 0.0500	< 0.0500
Nickel	27.8000**	7.9500	7.2100	17.9000**
Potassium	572.0000	739.0000	674.0000	867.0000
Selenium	1.2200**	< 0.2500	< 0.2500	1.1400**
Silver	< 0.5890	< 0.5890	< 0.5890	< 0.5890
Sodium	1610.0000**	456.0000	354.0000	811.0000
Thallium	33.1000**	15.3000**	14.4000**	< 6.6200
Vanadium	32.3000**	19.0000	14.6000	11.7000
Zinc	1370.0000**	2100.0000**	2440.0000**	606.0000**

Notes: ** = Value is above the background concentration for the depth shown, < = Not detected at the value shown, NA = Not analyzed

TOOELE AD-NORTH AREA: SWMU NO. 47 - BOILER BLOWDOWN WATER
SEDIMENT ANALYTICAL RESULTS FOR ORGANIC COMPOUNDS

Sample ID	SD-47-001	SD-47-002	SD-47-002-DUP	SD-47-003
Lab ID	OIL1*768	OIL1*769	OIL1*774	OIL1*770
Date Sampled	07/16/92	07/16/92	07/16/92	02/08/93
Depth (ft)	0.000 ft	0.000 ft	0.000 ft	1.000 ft
Volatile Organic Compounds (ug/g)	ND	ND	ND	ND
Semivolatile Organic Compounds (ug/g)	ND	ND	ND	ND
Pesticides (ug/g)	NA	NA	NA	NA
Herbicides (ug/g)	NA	NA	NA	NA
Total Petroleum Hydrocarbons (ug/g)				
Total petroleum hydrocarbons	675.0000**	150.0000**	139.0000**	3110.0000**
Explosives (ug/g)	ND	ND	ND	ND
Dioxins/Furans (ug/g)	NA	NA	NA	NA

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Notes: ** = Analyte was detected at the concentration shown < = Not detected at the value shown, NA = Not analyzed

Section 6

MONTGOMERY WATSON

6.0 SUMMARY OF RECOMMENDATIONS

6.0.0.1. This section contains a summary of recommendations based on the results of the Phase I RFI sampling results. Recommendations are offered for each SWMU based on whether there is evidence of a release of hazardous waste or constituents, and whether individual SWMUs are regulated under RCRA apart from the TEAD-N Corrective Action Permit. Recommendations for those facilities that currently have a RCRA permit to treat, store, or dispose of hazardous waste (TSD facility), or have interim status while awaiting a permit, are made considering that additional sampling and risk evaluations are required as part of closure of these facilities.

6.0.0.2. In those cases where there is no indication that a release has occurred, no further action is recommended. Conversely, where there are indications that contaminants were released, a follow-up Phase II investigation including evaluations of health risks is recommended. In the case of the RCRA Container Storage Yard (SWMU 27), no further action under RCRA corrective action is recommended because this is a permitted facility and an evaluation of risks to on-site workers is included in this Phase I RFI report. Of those SWMUs recommended for Phase II investigation, not all require additional field work. At several SWMUs, existing data can be used to support risk-based decisions regarding the need for corrective measures. Therefore, SWMU-specific recommendations fall into one of the following four categories:

- No further action. Based on facility design and past waste-handling practices, contaminant releases are considered unlikely, or the Phase I RFI was able to conclude that no contaminant releases have occurred.

- No further action under RCRA Corrective Action (SWMU 27 only). The Phase I data indicate that contaminants above background are present in the soils around this facility but, since the SWMU is operating under a current RCRA TSD facility permit that requires additional sampling and risk assessment upon closure, no further action under RCRA Corrective Action is necessary. An evaluation of risks to on-site workers has been completed as part of this report, and the risks found to be insignificant.

- Phase II investigation without sampling. The Phase I data indicate that a release of contaminants has occurred and there is sufficient information available to conduct either a baseline health risk assessment (for SWMUs not

regulated by RCRA TSD facility permits) or an evaluation of current risks to human and environmental health (for SWMUs regulated by RCRA TSD facility permits). These risk assessments or risk evaluations will be used to determine whether or not a corrective measure study or interim remedial action is needed.

- Phase II investigation with additional sampling. Additional field investigations are necessary to collect the data needed to assess the threat to human and environmental health and to determine whether or not a corrective measures study or interim remedial action is needed.

6.1 SWMU-SPECIFIC RECOMMENDATIONS

6.1.0.1. Specific recommendations for each SWMU are described in the following paragraphs. Table 6-1 summarizes these recommendations.

6.1.1. Open Burning/Open Detonation Areas (SWMU 1, 1a, 1b, 1c, 1d)

6.1.1.1. Main Demolition Area (SWMU 1). Based on the results of the Phase I RFI sampling program, a release of contaminants to the surface and near-surface soils has occurred at the Main Demolition Area. Demilitarization activities at SWMU 1 have released metals, explosives, and VOCs and SVOCs. Because this SWMU has interim status under RCRA as a TSD facility, additional sampling and risk assessments will be conducted upon facility closure. However, prior to closure, the presence of the hazardous constituents in the surface and near-surface soils may pose potential health risks to humans, especially on-site workers, and the environment. To quantify the current threat to human health and the environment, a Phase II investigation should utilize the existing data to conduct a current-use risk assessment of both human and environmental health. This should include the known contamination and exposure pathways including inhalation, dermal contact, and ingestion by both humans and cattle that graze in and around the OB/OD Areas. Because the existing environmental sampling data are adequate to support a current-use risk assessment of human and environmental health, no additional sampling is recommended.

TABLE 6-1

SUMMARY OF RECOMMENDATIONS FOR SUSPECTED RELEASES SWMUs

SWMU Name	SWMU Number	Recommendations: No Further Action	No Further Action Under RCRA Corrective Action	Phase II RFI Risk Assessment Only	Phase II RFI Additional Sampling and Risk Assessment Only
Open Burning/Open Detonation Areas					
Main Demolition Area[(a)]	1			•	
Cluster Bomb Detonation Area	1a			•	
Burn Pad	1b			•	
Trash Burn Pits	1c			•	
Propellant Burn Pans[(a)]	1d			•	
Box Elder Wash	–	•			
Sandblast Area	4				•
Sewage Lagoons	14				•
AED Demilitarization Test Facility	19			•	
AED Deactivation Furnace Site	20				•
Deactivation Furnace Building[(a)]	21			•	
DRMO Storage Yard	26			•	
RCRA Container Storage Yard[(b)]	27		•		
90 Day Drum Storage Area	28				•
Drum Storage Areas	29			•	
Pesticide Handling and Storage Area	34				•
Contaminated Waste Processing Plant	37				•
Industrial Waste Treatment Plant	38			•	
Solvent Recovery Facility	39	•			
Bomb Washout Building	42				•
Container Storage for P999	43	•			
Tank Storage for TCE	44	•			
Stormwater Discharge Area	45				•
Used Oil Dumpsters	46				•
Boiler Blowdown Water	47				•

Notes: (a) SWMU is regulated by a RCRA TSD facility permit requiring additional sampling and risk assessment upon closure. Phase II risk assessments for these facilities will be limited to current-use scenarios.

(b) SWMU is regulated by a RCRA TSD facility permit. An evaluation of risks due to current-use exposure has been completed.

6.1.1.2. Cluster Bomb Detonation Area (SWMU 1a). The results of the Phase I RFI sampling at SWMU 1a show that certain contaminants have been released to the surface and near-surface soils by previous activities. Because this sub-SWMU is recommended for inclusion within the Main Demolition Area (SWMU 1), additional investigations of the Cluster Bomb Detonation Area should be included with SWMU 1.

6.1.1.3. Burn Pad (SWMU 1b). Phase I RFI sampling revealed that some release of contaminants has occurred here. Therefore, a Phase II evaluation using existing data is recommended. The Phase II investigation should include a baseline risk assessment to help identify and quantify potential risks associated with this SWMU to humans and the environment. The existing data are sufficient to support the Phase II evaluation and no additional sampling is required.

6.1.1.4. Trash Burn Pits (SWMU 1c). Soil samples from the trash burn pits indicate that contaminants have been released in surface and near-surface soils. Metals, VOCs, SVOCs, explosives, explosive by-products, and minor concentrations of dioxins and furans were detected at SWMU 1c. The effect of this release on human health and the environment is not known at this time. A Phase II evaluation utilizing existing data is recommended. The evaluation should include a baseline risk assessment to help identify and quantify health risks associated with this release. No further sampling activities are recommended.

6.1.1.5. Propellant Burn Pans (SWMU 1d). Surface and subsurface soil samples from SWMU 1d reveal that past and present demilitarization activities have released metals and explosive compounds to the surrounding surface soils. Because this sub-SWMU is a TSD facility operating under interim RCRA status, additional sampling and assessments of risks will be conducted upon closure. However, prior to closure, the presence of hazardous wastes and constituents may pose a threat to humans and the environment. For this reason, it is recommended that SWMU 1d be included in a Phase II investigation that includes a current-use risk assessment to quantify risks to humans and the environment. Because the sampling data collected to date are sufficient to support a current-use risk assessment, no further sampling is recommended.

6.1.2 Box Elder Wash

6.1.2.1. Based on the results of the Phase I RFI sampling along Box Elder Wash, no contamination of surface soils appears to have occurred. The contaminants present at the various SWMUs and SWMU subunits within the OB/OD Area do not appear to have been

transported by surface water into or along this wash. The only metals detected above the background thresholds were cadmium and copper, and the concentrations of these metals were negligible. No explosives were detected. The concentrations of major anions in some samples, while above statistically-generated background values, are not considered a major concern here in the absence of other contaminants. Therefore, no further action is recommended for Box Elder Wash.

6.1.3. Sand Blast Area (SWMU 4)

6.1.3.1. Samples collected during the Phase I RFI sampling detected the presence of elevated metals and organic compounds in the surface soils surrounding the sandblast dumpsters at SWMU 4. Metals detected commonly included cadmium and lead, both of which are considered toxic. Several other metals were also detected, as was cyanide. VOCs and SVOCs were detected at low levels in several samples. Most of the SVOCs were likely constituents in the paints used in the sandblast media. Sample results indicate that collection points for used sandblast media are sources of contaminants released to the environment. For this reason, it is recommend that SWMU 4 be included in future Phase II studies. The presence of elevated levels of metals and several SVOCs may pose a potential health risk to humans. To quantify the threat to human health and the environment, the Phase II effort should include the following:

- Sampling shallow borings (up to 5 feet deep) through the asphalt parking lots in the vicinity of the sandblast media dumpsters to evaluate depth of contamination.

- Sampling of surface soils and soils immediately beneath the paved areas in a grid pattern to determine the horizontal extent of contamination.

- Sampling surface soils along surface water runoff pathways.

- Conducting a baseline health risk assessment.

6.1.4. Sewage Lagoons (SWMU 14)

6.1.4.1. The results of the Phase I RFI Sampling Program show that the sewage lagoons have affected groundwater quality in that concentrations of sodium in downgradient wells are slightly elevated compared to upgradient water quality. Also, groundwater sampling

during July 1992 detected elevated levels of arsenic, barium, lead, and chromium, especially in the downgradient well N-134-90. These elevated levels were not found during the follow-up sampling round in February 1993. Because the first round results were not replicated, sewage lagoon wastewater does not appear to be contributing organic contaminants or metals to the groundwater at this time. Because of the elevated levels of contaminants detected in the lagoon sediments, and the potential for contamination of the soils underlying the lagoon liner, further activities are recommended at SWMU 14. These activities should include sampling the underlying soils.

6.1.5. AED Demilitarization Test Facility (SWMU 19)

6.1.5.1. Soil samples collected during the Phase I RFI Sampling Program reveal that a release of low levels of metals, the explosive compound RDX, and several different SVOCs has occurred. SWMU 19 should be included in future Phase II evaluation activities. Elevated levels of nitrate are also present in surface soils. However, because concentrations of contaminants are low and not widespread, no additional sampling is recommended. Existing data should be sufficient to conduct a baseline risk assessment to evaluate the potential risks associated with this SWMU.

6.1.6. AED Deactivation Furnace Site (SWMU 20)

6.1.6.1. Phase I soil sampling revealed that demilitarization test activities conducted at SWMU 20 have released contaminants including varying concentrations of metals, explosives, and concentrations of organic compounds to the soils. It is recommended that this SWMU be included in future Phase II evaluation activities. The presence of metals in surface soils may present a potential health risk to humans. To quantify this risk, the Phase II investigation should include the following:

- Sampling surface soils and shallow soils for metals and explosives, both at the facility and on transects away from the facility to determine the vertical and areal extent of contamination

- Conducting a baseline risk assessment

6.1.7. Deactivation Furnace Building (SWMU 21)

6.1.7.1. Phase I RFI soil sampling revealed that various contaminants have been released to surface soils from SWMU 21 activities. Elevated levels of numerous metals were detected in all soil samples collected, as were detectable levels of dioxins/furans. Explosives were present in five of the ten samples collected. Both VOCs and SVOCs were also detected in surface soils as well as elevated levels of nitrates and total phosphates. These compounds are most likely present as daughter products from the incineration of explosives at this SWMU. Because this SWMU operates under a RCRA TSD facility permit, requiring additional sampling and risk assessment upon closure, a current-use assessment of risks to human and environmental health is recommended for the Phase II RFI. Sampling should be limited to that needed to support the current-use risk assessment. Although extensive soils data have been collected, a drinking water supply for cattle and native animals near SWMU 21 may pose a threat to these animals. Therefore, the following is recommended:

- Sampling surface water in a watering trough near the east side of the SWMU
- Sampling sediment from a wet area where the watering trough drains.

6.1.8. DRMO Storage Yard (SWMU 26)

6.1.8.1. Phase I RFI soil sampling at SWMU 26 has revealed that various contaminants have been released to surface soils. Metals, small concentrations of cyanide, and minor concentrations of VOCs and SVOCs were detected in the soil samples. Based on the results of this sampling there is evidence that activities at SWMU 26 have released numerous types of contaminants to the environment. Therefore, it is recommended that Phase I RFI sampling data be used in the Phase II evaluation to assess potential health risks to both humans and the environment. No more sampling is required for the Phase II assessment, as Phase I sampling provided sufficient coverage. However, a Phase II assessment should include an evaluation of stained soils versus unstained soils sampled to provide an indication of the localization of the detected contamination.

6.1.9. RCRA Container Storage (SWMU 27)

6.1.9.1. Contaminants detected during the Phase I RFI investigation at SWMU 27 include elevated levels of several metals. However, because all samples at this SWMU were collected from imported granular fill material underlying this facility, it is possible that elevated metals are naturally-occurring in this imported material. Regardless of their

source, as discussed in Section 5.14.5., these metals pose no threat to on-site workers under the current-use scenario. Since SWMU 27 is currently an operating TSD facility under a RCRA Part B permit, additional sampling and risk assessment will be conducted upon facility closure. For both these reasons, no further action under RCRA Corrective Action is recommended for this SWMU.

6.1.10. 90-Day Container Storage Area (SWMU 28)

6.1.10.1. The results of the Phase I RFI Sampling Program show that metals and organic compounds have been released to surface soils at SWMU 28. Concentrations of cadmium, lead, and zinc, as well as VOCs and SVOCs, were detected in soil samples. For this reason, it is recommended that SWMU 28 be included in the Phase II evaluation to quantify the threat to human health and the environment. Since SWMU 28 is a 90-day holding area, no RCRA permit is required. However, RCRA requirements will involve future environmental sampling activities at the time of closure and no additional Phase II soil samples should be collected and should include sampling soil borings (3-5 feet deep) to determine the vertical extent of contaminants.

6.1.11. Drum Storage Areas (SWMU 29)

6.1.11.1 Soil samples collected from SWMU 29 during the Phase I RFI investigation indicate that activities at the Drum Storage Areas have released contaminants to the environment. Metals, VOCs, and pesticide compounds were identified in the soil samples. Because the Phase I data provide sufficient coverage, it is recommended that the Phase I data be evaluated in the Phase II investigation to quantify health risks in a baseline risk assessment. Because present sample data give widespread coverage, no additional sample collection is required at this time.

6.1.12. Pesticide Handling and Storage Area (SWMU 34)

6.1.12.1 Soil sampling conducted at the Pesticide Handling and Storage Facility has revealed that contaminants have been released. Five of six soil samples contained elevated levels of metals. One sample contained an elevated level of cyanide and all six samples contained detectable concentrations of pesticides and/or herbicides. Due to the presence of these contaminants, it is recommended that this SWMU be included in Phase II investigations. Because DDT is present in concentrations greater than 1 μg/g, it is possible that this compound may present a threat to human health and the environment. Although

the available data are useful, they are insufficient to quantify health risks. Therefore, to collect the needed data and quantify the health risks, the scope of the Phase II RFI should include the following:

- Sampling surface soils around the facility to provide wider coverage and determine the areal extent of contamination

- Sampling surface and near-surface soils in shallow borings (3-5 feet deep) at and around the facility to evaluate the areal and vertical migration of contaminants

- Sampling deeper borings (20 feet deep) in the vicinity of the mixing area and under the adjacent concrete pad to determine if spills or rinsate have migrated into the subsurface to this depth

- Analyzing selected samples for dioxins/furans to see if these types of compounds (present in some herbicides) are present

- Conducting a baseline risk assessment.

6.1.13. Contaminated Waste Processing Plant (SWMU 37)

6.1.13.1. Soil sampling during the Phase I RFI suggest that incineration activities have released numerous types of contaminants to the environment, some of which may pose a health threat to humans and the environment. Contaminants of concern include dioxins/furans and SVOCs. For this reason, it is recommended that SWMU 37 be included in the Phase II evaluation. Because there are insufficient data to quantify the threat to human health and the environment, additional Phase II soil sampling should be conducted at this SWMU prior to conducting an evaluation of health risks. Phase II efforts should include:

- Sampling surface soils around the facility and away from the paved area to determine the areal extent of contaminants

- Sampling deeper borings in areas of known contamination and surface water runoff channels to evaluate the vertical migration of the SVOCs and the dioxins/furans

- Conducting a baseline risk assessment.

6.1.14. Industrial Wastewater Treatment Plant (SWMU 38)

6.1.14.1. Soil samples collected from SWMU 38 during the Phase I sampling show that low levels of several contaminants have been released to surface soils in the vicinity of the used granular activated carbon (GAC) containers. For this reason, it is recommended that SWMU 38 be included in the Phase II evaluation. Due to the low concentrations and limited extent of the contaminants present, it is recommended that no additional sampling be conducted at this SWMU, but that the Phase II investigation include an evaluation of the potential health risk posed by contaminants at this SWMU utilizing existing data.

6.1.15. Solvent Recovery Facility (SWMU 39)

6.1.15.1. Because the Solvent Recovery Facility is new and equipped with adequate containment features, and because there have been no spills of reportable quantities, it is unlikely that there is any significant environmental contamination resulting from waste handling or storage practices at this facility. For this reason, no sampling was conducted and unless the waste handling practices change, no further actions are recommended.

6.1.16. Bomb Washout Building (SWMU 42)

6.1.16.1. Phase I sampling activities at the Bomb Washout Facility indicate that both metals and explosives have been released to the soils in the vicinity. Extremely high levels of lead are a cause for concern. Because of the contamination detected at SWMU 42, it is recommended that it be included in the Phase II evaluation. Due to the presence of elevated metals in surface soils, there is a potential health risk to both humans and the environment. To quantify the risk, the Phase II RFI should include the following:

- Searching for additional, more specific background information regarding the nature and history of activities conducted at SWMU 42 and describing the different types and locations of equipment operated here, allowing more efficient siting of sampling locations

- Sampling borings from 5 to 10 feet deep in areas away from the immediate vicinity of the ditch, pond, and second furnace to evaluate metals and explosives contamination at those depths

- Sampling deeper borings to 100 feet beneath the waste water ditch and evaporative pond where elevated metals are present below the depths explored in the Phase I investigation

- Field screening for lead using X-ray fluorescence to evaluate lead concentrations on site, allowing rapid delineation of contaminated areas

- Conducting a baseline health risk assessment.

6.1.17. Container Storage Areas for P-999 and Mustard Agent-Filled Mortar Rounds (SWMU 43)

6.1.17.1. No environmental sampling was conducted in the vicinity of the storage igloos in SWMU 43 and upon review of available records and interviews with Base personnel, no indications that mustard agents leaked from the 4.2-inch mortar rounds while stored in the north area were revealed. In addition, because M-55 rocket components stored in other igloos did not contain or contact chemical agents or warheads, there is no reason to believe that contaminants have been released to the environment from these storage facilities. For this reason no further action is recommended for SWMU 43.

6.1.18. Tank Storage for Trichloroethylene (SWMU 44)

6.1.18.1. Waste from the TCE storage tank was emptied into the IWL outfall ditches and lagoon. These facilities have been excavated and capped. Remediation of the groundwater contaminant plume associated with the IWL is underway. Neither the storage tank nor contamination originating from the tank remain at the site, therefore no further action is recommended.

6.1.19. Stormwater Discharge Area (SWMU 45)

6.1.19.1. Sampling of surface water sediment and soil at SWMU 45 suggest that stormwater discharges have released contaminants to the environment. Therefore, it is

recommended that SWMU 45 be included in future Phase II activities. Because elevated concentrations of metals, explosives, VOCs, and SVOCs were detected in both the sediment and surface waters, and this area has received aqueous discharges for many years, it is possible that contaminants have migrated to the groundwater beneath this pond. The Phase II RFI at this SWMU should include installation and sampling of monitoring wells in the vicinity of SWMU 45, as well as sampling of existing nearby monitoring wells. In addition, to quantify the risks to human health and the environment, a baseline risk assessment should be included.

6.1.20. Used Oil Dumpsters (SWMU 46)

6.1.20.1. The results of surface and shallow soil sampling near the used oil dumpsters comprising SWMU 46 show that these dumpsters have released TRPHs to the nearby surface and shallow subsurface soils. Therefore, it is recommended that this SWMU be included in the Phase II evaluation to characterize the extent of this contamination and to evaluate the potential health risk it poses to humans and the environment. To provide the necessary information, additional Phase II soil samples should be collected and an evaluation of health risks conducted. The scope of the Phase II RFI should include:

- Shallow soil borings (up to 5 feet bgs) in the vicinity of the used oil dumpsters

- Soil samples from the first foot and total depth for TRPH and VOCs

- A baseline risk assessment.

6.1.21. Boiler Blowdown Water (SWMU 47)

6.1.21.1. The media sampled at SWMU 47 included surface water and sediment. Results of this sampling reveal that boiler blowdown activities may have released some organic compounds to the environment. Therefore, it is recommended that SWMU 47 be included in Phase II evaluation activities including a baseline risk assessment. Additional sampling is recommended around the open discharge site west of Building 691, to further quantify the risks associated with this effluent. Surface water, sediment, and shallow soil samples should be collected along the open channel here.

6.2 SWMU PRIORITIZATION

6.2.0.1. One of the objectives of the Phase I RFI was to rank the SWMUs included in the program for additional investigation. Table 6-2 contains a summary in which SWMUs are prioritized by a qualitative evaluation of the toxicity and extent of contaminants, exposure pathways, and potential receptors.

TABLE 6-2

SWMU PRIORITIZATION

Priority	SWMU Name (Number)	Rationale
1	Bomb Washout Building (SWMU 42)[a]	High levels of metals in surface soils
2	Stormwater Discharge Area (SWMU 45)[a]	Threat to groundwater
3	Deactivation Furnace Building (SWMU 21)[a]	High levels of metals in surface soils
4	Contaminated Waste Processing Plant (SWMU 37)[a]	Elevated levels of dioxins and metals
5	AED Deactivation Furnace Site (SWMU 20)[a]	High levels of metals in surface soils
6	OB/OD Areas (SWMU 1)[b]	Extensive area contamination
7	Pesticide Handling and Storage Area (SWMU 34)[a]	Presence of pesticides and herbicides in surface soils
8	Sandblast Areas (SWMU 4)[a]	High levels of potentially toxic metals
9	DRMO Storage Yard (SWMU 26)[b]	Wide area of moderate contamination of several types
10	Drum Storage Areas (SWMU 29)[b]	Pesticides and metals along surface water drainage
11	Sewage Lagoons (SWMU 14)[a]	Sediments and underlying soils could be a contamination source
12	90-Day Drum Storage Area (SWMU 28)[a]	Slightly elevated levels of several contaminants in isolated locations
13	Industrial Waste Treatment Plant (SWMU 38)[b]	Slightly elevated levels of metals and SVOCs in isolated area
14	AED Demilitarization Test Facility (SWMU 19)[b]	Slightly elevated levels of metals at isolated locations
15	Used Oil Dumpsters (SWMU 46)[a]	Detectable levels of TRPH present at most locations
16	Boiler Blowdown Water (SWMU 47)[b]	Some elevated metals, cyanide, and TRPH at isolated locations
17	RCRA Container Storage Yard (SWMU 27)[c]	Eventual RCRA closure requirements
18	Container Storage for P-999 and Mustard Agent-filled Mortar Rounds (SWMU 43)[d]	No evidence of release
19	Solvent Recovery Facility (SWMU 39)[d]	No evidence of release
20	Tank Storage for TCE (SWMU 44)[d]	No SWMU present at this facility

Notes: (a) Indicates a Phase II investigation with additional sampling is recommended.
(b) Indicates a Phase II investigation without additional sampling is recommended.
(c) Indicates no further action is recommended under RCRA Corrective Action.
(d) Indicates no further action is recommended.

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